ECONOMIC PRODUCTS OF INDIA

EXHIBITED IN THE ECONOMIC COURT,

Calcutta Enternational Exhibition, 1883-84

GEORGE WATT, M.B., C.M., F.L.S.,

BENGAL EDUCATIONAL SERVICE,

In charge of the Economic Court and of the Central Office, Calcutta International Exhibition of 1883-84.

PART VII.

TIMBERS.

COMPILED BY

F. B. MANSON.

DEPUTY CONSERVATOR OF FORE 'S,

- Ipenal duty, Calcutta International Exhibition, in charge of Forest

Department Exhibits.



ALCCITA.

NTED BY HE SUPPRINTENDENT OF GOVERNMENT PRINTING, IND: 1863.

PREFACE



H AVING been asked by the Government of India to prepare an Imperial Dictionary of the Indian Economic Products, I early resolved to make Mr. J. S. Gamble's admirable "Manual of Indian Timbers" the standard of all matters relating to Forestry.

Mr. F. B. Manson, the officer sent to the Calcutta International Exhibition in charge of the Forest Department Collections, offered to prepare his Catalogue uniform with the published parts of the present series, so that it might be utilized in the Lictionary. Having obtained the consent of Mr. Gamble, this Catalogue was further prepared as an abstract, alphabetically arranged, of his "Manual of Timbers." It has incorporated numerous corrections and additions received from Mr. Gamble and other distinguished authorities. For the convenience of persons consulting Mr Gamble's Manual or inspecting his original collection, the experimental numbers embossed upon the blocks of wood have been reprinted. But as these cannot be regarded as Catalogue numbers (the same species of wood often having many numbers indicating the experiments performed to determine weight and durability), the marginal numbers are those printed on the labels attached to the collection now exhibited.

From my personal knowledge of the accuracy of Mr. Manson's work, I have little doubt Part VII will prove a most valuable addition to the series of the "Economic Products of India."

GEORGE WATT.

ECONOMIC PRODUCTS OF INDIA

EXHIBITED AT THE

Calcutta International Exhibition, 1883-848

FOREST SECTION.

PART VII.—Timbers.

	î
	ABIES.
ABELIA.	
bel a triflora, R Biown, Cairifoliacere Vern. Adu, piklowar, Translinds Cheta buta Jhfi m Banlakharu ilinker, (Henab Daliy, kits, Ravi, Zbang, matsbang feni, Sulli J Munri g atti kunki, ki Maun	I
A large shrub, met with in Safedkoh and the Suliman Range, North-West Himalay: between 4,000 and 10,000 feet Wood hard, close and even-grained Weight 65 lbs per cubic foot Not used	
H 2937 Naldehra, Simla, 7,500 feet 65	
ABIES.	
pies dumosa, Loudon, Coniffræ	2
THE INDIAN HEMIOCK SPRUCE.	
Vern.—Chang ithass de ip, thingia, thingans sula, Nesal, Tangshing, Bhuila, Se nadung chemdang, Lepcha	
A large tree met with in North-East Kumaun, Nepal, and Sikkim between 8,000 and 10,500 feet	
Wood, soft, with a slight pinkish tinge Weight 27 to 29 lbs per cubic foct	
*Used in Sikkim for shingles It is suitable for planking and rough	
E 377 Phallaloong ridge, Darjeeling, 10,000 feet 27 2 968. Chumbi Valley, Iibet, about 10,000 feet 20	

AB.	Œ.
	•

·Abies Smithiana, Forbes.

THE HIMALAYAN SPRUCE.

Vern.—Wesha, bajár, Afg.; Kachal, kachan, Hazara, Kashmir; Rewari, ban lúdar, sangal, salla, sarei, káuli, roi, rág, ráo, bang re, krok, Pb. Himalaya; Tos, Ravi; Rau, raiang, re, Surlej; Rai, Jaunsar; Kandre, re, rhái, ráo, khutrau, riálla, rágha, morindu, kail silu, Garhwal, Kumaun; Sehshing, Bhutia.

A lofty free met with in the North-West Himalaya between 7,000 and 11,000 feet; in Sikkim and Bhutan in the inner valleys between 7.800 and 10,000 feet; and in the mountains of Afghanistan, Kafiristan and Gilgit.

Wood white, with a reddish or brown tinge, a little harder than that of A. Webbiana. The inner belt of annual rings soft and spongy,

Weight on an average of 30 lbs. per cubic foot.

The wood is extensively used locally, e. g., in Simla, for packingcases, rough furniture and planking, and sometimes for shingles. It crackles and sends out sparks in burning, besides burning away very quickly, but it is much used for charcoal.

H 3165.	Dungaga	alli, Ha	zara, 7,	000 f	eet				
H 775.	Kalatóp	Forest,	Dalho	usic,	7,000 f	eet			31
Н 3.	Mahasu	Forest,	Simla,	8,000	feet				28
H 12.	"	22 🕳	٠,, ٠	"	,,				32
H 43.	,,	,,	•,,	,,	,,		. •		32
	Nagkan								
H 3032.	Hattu F	orest, S	imla, 9,	ooo fe	et (yo	ung ti	ree 🆢 👚		39
	Mohna i							_	26

E 965 sent by Dr. Schlich from the Chumbi Valley, Tibet, between Sikkini and Bhutan, from about 9,000 to 10,000 feet, is a species of Abies closely allied to A. Smithiana, the structure of the wood is identical.

A. Webbiana, Lindl.

THE HIMALAYAN SILVER FIR.

Vern.—Paládar, rewari, Jhelam; Bádar, búdar, táng, Kashmir; Dhúnu, rág, rail, pe, re, salle, sara, Chamba; Tos, Kulu; Spin, pin, krok, kalrci, Kunawar; Bharda, thanera, Shali; Burla, pindrau, pindrai, Hattu; Kúdrom Matiyana; Burúl, búrra, báldu, Bhajji; Kalraí, satraí, chúr, Kotkai; Raho, row, chilrow, kilaunta, Chor, Morinda, Jaunsar; Ragha, rao ragha, ransla, raisalla, Kumaun; Wúman, Byans; Gobria sulah, Nepal; Dumshing, Bhuita.

A lofty evergreen tree, met with in the Himalaya, from the Indus to Bhutan; in the North-Western Himalaya, between 7,000 and 13,000 feet; in the inner ranges of Sikkim and Bhutan, between 9,000 nd 13,000 feet; in the outer ranges it does not descend below 10,000

Wood white, soy. The inner zone of each annual ring is son spongy. Weight about 20 lbs. per cubic foot.

The wood is not durable when exposed to the weather, but see. last well as shingles in Sikkim, whence it is sometimes exported to ' + t for roofing. At Murree shingles are said to last eight to ten years, in Kulu three to six. In Kunawar and Lahoul it is much used for c struction.

Н	•934.	Hazara, 7,000 feet		•	20
H.		Kalatóp Forest, Dalhousie, 7,500 feet			•••
H H	2895.] 3031.]	Hattu, Simla, 9,000 feet		نے	•••
Н	65.	Nagkanda, Simla, 9,000 feet			20
Н	421.	Thona Block, Deoban Forest, 8,000 feet		• ,	
E	359	Sandukpho, Darjeeling, 11,500 feet		4 -	ا ن 🕶
E	2437.			٠.	}
E	964.	Chumbi Valley, Tibet, 10,000 feet	•	•	2

ACACIA.

Acacia arabica, Willd., LEGUMINOSÆ.

Vefn. Kikar, PB.; Babbar, babhúla, kali kikar, SIND; Ráma-kátá, Bom.; Babúl, babúr, HIND; Báblá BENG.; Gabur bahar, SONTHAL; Babola, MAL. (S. P.); Karúvelum, TAM.; Túma nella túma, Tel.; Gobli, karrijáli, KAN.

A moderate sized tree wild probably in Sind, Rajputana, Guzerat, and the Northern Deccan; common everywhere throughout the plains of India.

Sapwood large, whitish; heartwood pinkish-white, turning reddishbrown on exposure, hard, mottled with dark streaks. It consists of darker and lighter coloured bands of an equal width. Weight about 54 lbs.

It is very durable if well seasoned. Used extensively for wheels, well curbs, sugar and oil-presses, rice-pounders, agricultural implements and tool handles. In Sind it is largely used for boat-building, rafters and for fuel, also occasionally for railway sleepers.

						lbs.
P 1198. Madhopur, Punjab				•		. 58
P 800. Multán	•	٠		•	•	• 49
P 1379. Miani Forest, Sind	. •	. •	•	•	•	. 56
P 440. Ajmere	•	•	•	•	•	• •••
C 843 Amraoti, Berar D 1051. Salem, Madras	•	•	•	•	•	56
No. L. Salem Collection	•	•	•	•	•	. 50

A. Catechu, Willd.

CATECHU, CUTCH; CACHORE, Fr.

Syn. -A. Sundra Beddome, MIMOSA SUNDRA, Roxb.

Vern.—Khair, kalha, Hind., Dec.; Khayer, kuth, Beng.; Khoira, koir, Ass.; Kashukatti, vodalai, karangalli, bagá, wodalior, kashu, katti, wothalay, Tam.; Podala-manu, kanchu, Sandra, nalla sandra, Tel.; Kachu, Kan.; Khair, Sans.; Sha, Burm; Khoiru, Uriya; Kagli, Kan.; Khaderi, Khaira, Bom.; Ratkihiri, Cingh.

'A moderate sized, gregarious, thorny, deciduous tree, common in most parts of India and Burma, extending in the Sub-Himalayan tract westwards to the Indus. Mr. J. W. Oliver reports that trees 70 to 80 feet high, with a girth of 8 to 9 feet, are not uncommon in the north Tharrawaddy Reserves.

Sapwood yellowish white; heartwood either dark or light red, extremely hard. The wood seasons well, takes a fine polish and is extremely durable. It is not attacked by white ants or by teredo. It is used for rice pestles, oil and sugarcane crushers, agricultural implements, bows, spear and sword handles and wheelwrights' work. In Burma it is used for house posts, and very largely used as firewood for the steamers of the Irrawaddy Flotilla. In Northern India it is used for charcoal, and is one of the best woods for that purpose. It has been found good for railway sleepers, and it is probably only the smallness of the tree and the consequent waste in cutting up that has prevented its more general use.

								1	lbs.
Н	938.	Hazara, Punjab	•	•	•	•	•	•	• • •
P		Kangra "	•	•	•	•	•	. :	54
	1196.	Madhopur, Punja	b	•	•		•	. (бз
P	98.	Sutlej Valley, Pu	njab				•	. (63
P	455.	Ajmere .	•		•	•	•		•••
O	255.	Garhwal (1868)			•	•			53
								ŧ	

A I

	•
ACIA.	
•	Valuable for cart-wheels, sugar-cane crushers, Persian water-wheels and agricultural implements.
•	P 164. Hoshiarpur (J. L. Stewart, 1866)
· 15	Acacia pennata, Willd.
• ;	Syn.—Mimosa pennata, Roxb. Vern.—Agla, awal, Kumaun; sembi, sami, Bomb.; Biswil, Hind. s Kundaru, Kol.; Arar, Kharwar; Undaru, Sonthal; Gurwa, Mal. (S.P.); Arfu, Nepal; Tol rik, Lepcha; Sooyit, Burm. A large climbing shrub, found in Oudh, Kumaun, Nepal, Eastern Bengal, Burma and South India. Wood porous, moderately hard. Weight 50 lbs. per cubic foot.
•	E 476. Balasun Forest, Darjeeling Terai
16.	A. planifrons, W. & A. The Umbrella Thorn. Vern.—Salé, sal, Tel.
	A small gregarious tree of South India. Wood hard and strong; heartwood red, sapwood white. Used for agricultural implements, and fuel. D 3662. Coimbatore, Madras.
<i>6</i> 27	A. Suffia. Kurz in Brand For. Fl. 187. Syn.—Mimosa suma, Roxb. Vern.—Sai-kanta, Beng.; Kumtia, Pertabgarh; Dhaula khejra (white acacia), Banswara; Gorado, Mandevi; Sonkairi, Dangs; Tella sandra, Tel. A medium sized tree with white bark and downy branchlets; found
	in Bengal, Behar Western Peninsular, Ava and Ceylon. The wood of the following specimens (which probably belong to this species) resembles that of Acacia Catechu, but has smaller and more numerous pores, and finer and more numerous medallary lays.
	C 1308, Gumsúr (Khoiru)
' 18	A. Sundra, DC. Vern.—Sandra Nalla, Sandra, Tel.; Karangalli, bágá, Tam. Found in the Western Peninsula, Ceylon, and Burma. The Flora of British India remarks: "This is scarcely more than variety of A. Catechu, from which it differs in its fewer leaflets" an "total absence of pubescence," and in "the dark-brown colour of it. branchlets." The wood is dark-red, rather close-grained, durable, very heavy, not attacked by insects.
19	A. vera, Willd. Found in Egypt, Arabia, and Northern Africa. It produces the true gum-arabic.
•	(Specimens wanted.)

_		Timb	ers.	,	• .			.• [P	ART Y
	•			٠.				•. <i>i</i>	ACER.
		• ACEF	₹	_			•	. ↓.	20
cer cæsiun	Wall. SAPII	NDACEÆ.	•	•	•	•	•		•
	Maple.		•					. .	•
Vern.— kanz MAU.	-Trekhan, tarkh al, PB. ; Kanshir N.	ana, tilpatta 1, Tibet ; Je	ır, man rimu,	dar, ke shuman	auri, k jra, Şi	alind: MLA ;	ra, sali Kilu,	Ma; Ku-	
Indus to Ne Wood wi	deciduous tree, pal, between 7, hite, close-grain rately hard; an	ooo and 11 led, less m	,000 fee	than't	ha k o	f A.	caudat	um,	£::
Scarcely Tibetans.	used. Drink	ing cups a	re som	etimes	made	e of	it by	he	
			•		•		lbs.	ı	
H 33. H 915.	Matiyána, Si Hazara, Pun	mia, 7,000 i ab. 7.000	eet .	•	•	• (40 41 •		
H 3009.	Nagkanda, S	imla, 0.000					-T-		
	Deoban, Jaur				•		40	1	
	i, Hook, f. and	• •	. •.	-	-	-	•	•	21
A large of feet. The club Wood grunual rings man It is extuduces freely in the regence.	Kabashi, NEPAL deciduous tree in the Maple of the eyish white, marked by a thin ensively used either by seed eration of the high lbs. per cubic	ound in the he North-E oderately he line. for planking or by copill forests.	e Sikk ast Hin ard, s	im Himalaya hining, d for	malaya close- tea-box	a, ab grain kes. impon	ove 7, ned A It rep rtant p	An-	•
E 436.	Rangbúl, Dar	iceling, 7.0	oo feet		_		lbs.		
E 2337.	,,	"	,,		:	:	37 40		
E 686.	Sepoydura, D	arjeeling, 5	,500 fe	et .	•	•	37		
<i>Yalis</i> A moder Chenan to B Wood wh hard, someti	I, Wall. Kansla, kandari hin, Biiutia. ate sized decide hutan, between hite, with a fai mes with sma stinct. Weigh	uous tree, 1 7,000 to 13 nt pink ti ll masses o	net wit 1,000 fe nge, si f heart	h in theti.	e Him	alaya • ct, m e cent	from oderat	the	22
Н 27.	Matiyána, Si	mla, 7,000 f	eet .	٠.		•	16е. 45		•
H 41. H 74.	Mahasu, ,	, 8,000	,, ·	•	:	:	44 41		
Н 3007.	Nagkanda ,	- 000	,, .	•	•	•	•••		
	<i>Lal kabashi</i> , Nep			DL	.m1		•	j	23
nts with c	ous tree, found opper-coloured ey. Weight 37	foliage are	not ur	comm		ut D	arjeelii		
F 2228	Rangbúl, Dar	ieeling, 7.50	n feet		•		1bs. 37	٠٦	

Economic Products of India.

CER.	Jacobson ,
24	Acer lævigatum, Wall.
•	Vern.—Saslendi, cherauni, thali kabashi, NEPAL; Tungnyok, LEPCHA. A deciduous tree, found in the Himalaya from the Jumna eastwards to Bhutan, between 5,000 and 9,000 feet, in the Khasia Hills and in Tenasserim. Wood white, shining, hard, close-grained. Weight 43 lbs. per cubic foot.
•	Used for planking and tea-boxes.
-	E 684. Sepoydura, Darjeeling, 5,500 feet 43 .
, ,25 `	A. oblongum, Wall. Vern.—Mark, PB.; Mharengala, patangalia, kirmoli, NW. P.; Pugila, busimpata, Nepal. A moderate sized destiduous tree, found in the Himalaya from the Jhelum eastwards to Bhutan, up to 6,000 feet. Wood light-reddish-brown, moderately hard, close-grained. Annual rings faintly marked. Weight 45 lbs. per cubic foot. Used for agricultural implements, and drinking cups.
	H 221. Garhwal (1868)
2 6	A. pictum, Thunb. Vern.—Kilpattar, trekhan, tarkhana, kakru, kanzal, kanjar, jerimu, laur, PB.; Kancheli, NW. P.; Dhadonjrq, SIMLA; Mandar, CHENAR. A moderate-sized tree, found in the Outer and Middle Himalaya from the Indus to Assam, between 4,000 and 9,000 feet. Wood white, soft to moderately hard, close-grained. The commonest Maple of the North-West Himalaya. Weight 41 lbs. per cubic foot. It is used for construction of ploughs, bedsteads, and poles to carry loads. Tibetan drinking cups are made of the knotty excrescences. H 931. Hazasa, Punjab, 8,000 feet H 3008. Nagkanda, Simla, 9,000
28	Woode shining, grey; annual rings distinct. Weight 37 lbs. E 3102. Darjeeling, 7,000 feet
	Vern.—Kabashi, NEPAL. A large tree, found, in the Hills of Sikkim and in Bhutan, above 4,000 feet. Wood greyish-white, soft. Weight 44 lbs. per cubic foot. 1bs. E 3103. Darjeeling, 5,000 feet
/ 89	A. villosum, Wall. Vern.—Karendera, SIMLA. A large deciduous tree, found in the North-West Himalaya from the Jhelum to Nepal, between 7,000 and 9,000 feet.

Timbers.	PART VI
Wood white, moderately hard, close-garined, beautifully mottled and shining; annual rings distinct. Weight 38 lbs. per cubic foot. Not used. H 62. Nagkanda, Simla, 8,000 feet	ADENAN
ACROCARPUS.	•
Acrocarpus fraxinifolius, Wight., LEGUMINOSE. Vern.—Mandania, NEPAL; Mad ling, LEPCHA.; Mallay kone, TINNEVELLY; Kilingi, BURGHERS; Hantige, belanja havulige, KAN. A lofty deciduous tree, found in the Hills of the Eastern Himalaya down to Chittagong, ascending to 4,000 feet, and in South India and Burma. Sapwood white; heartwood light-red, moderately hard. Weight 30 lbs. per cubic foot. It is used by planters in Darjeeling for tea-boxes and planking, in the Wynaad for building and furniture, and in Coorg for shingles. E 667. Lama Gumba Forest, Darjeeling	30
ADANSONIA.	
Adansonia digitata, Linn., Malvacer. The Baobab Tree of the Monkey Bread Tree of Africa. Vern.—Gorakhachincha, gorakha-amli, Bomb.; Gorakimli, Hind.; Kalpbrishk, Ajmere, Delhi; Haihr-khatyan, Dec.; Anai-kuliya-roy, Paparapulia, Yam.; Hujed, Arab. This is probably the biggest and the longest-lived tree in the world. It has been found thirty feet in diameter. Cultivated in some parts of India to a small extent; deserves to be extended. Introduced from tropical Africa. The wood is light, soft and porous, made into rafts to support fishermen in tanks. The fruits are used as floats. (Brandis.)	31
Adenanthera pavonina, Linn., Leguminosæ,	22 '
RED WOOD OF RED SANDAL WOOD. Vern.—Rakta-chandan, ranjana, BENG.; Ani kundámani. Tam.; Bandi gurivenda, Tel.; Manjati, Mal.; Thorlaganj, Mar.; Vála, thorlagoonj, Bomb.; Manjadi, Kan.; Madateya, Cingh.; Gung., Magh; Ywaygyee, Burm.; Rechedá, And. A large, deciduous tree met with in Bengal, South India, and Burma; sometimes called Red Sandal Wood.	
Heartwood red, hard, close-grained, durable and strong. The wood is used in South India for house-building and cabinet-	1 _

34

AADINA.

. ADHATODA.

Adhatoda Vasica, Nees, Acanthace ...

Syn. -- Justicia Adhatona, Linn.

Vern.—Arúsá, Hind.; Bakas, vasúka, Beng.; Bhekkar, Jhelum; Basúti, Bease, Bekkar, Salt Range; Tora bujja, Trans-Indus; Bashangarús, Kumaun; Arus, Sans.; Basung, Uriya; Adhatodai, Tam.; Adasara, Tel.: Teeshæ, Naga; Kath, alesi, Nepal.

A small, sub-herbaccous bush, often gregarious, found everywhere in Bengal, and in the Sub-Himalayan tract, ascending to 4,000 feet altitude.

Wood white, moderately hard.

It is used for gunpowder charcoal and for brick-burning.

H 2943. Sutlej Valley, Simla, 3,000 feet.

ADINA.

Adina cordifolia, Hook, f. and Bth., RUBIACEE.

Syn.-Nauclea cordifolia, Rozb. (Fl. Ind., i., 514.)

Vern.—Haldu, hardus karak, Hind.; Bangka. keli-kadam, pethuria, da-kóm, Beng.; Kurumba, komba, Sanko, Kol.; Karam, Santali; Bara kuram, Mal. (S. P.); Karam, Nepal; Tikkoe, Bahhaheli and Gonda; Hardu, paspu, kurmi, Gond; Holonda, Uriya.; Shlagdong, Garo; Roghu, Ass.; Manjakadambe, Tam.; Bandaru, dúdagú, paspu kadambe, Tel.; Hedde, yettéga, pettega, arsanatága, yettada, ahuau. Kan.; Hedu, Mar.; Kolong, Cingh.; Thaing, Magii; Hnaubeng, Burm.

A large deciduous tree, found in the Sub-Himalayan tract from the Jumpa eastwards, ascending to 3,000 feet, and throughout the moister regions of India and Burma.

Wood yellow, moderately hard, even-grained. No heartwood, no annual rings. It seasons well, takes a good polish, and is durable. but

somewhat liable to warp and crack. Weight 40 to 50 lbs.

It is good for turning, and is extensively employed in construction, for furniture, agricultural implements, opium boxes, writing tablets, gun stocks, combs and occasionally for dug-out canoes.

							108.
O 215.	Garhwal (1868)		•				43
O 2994.	,, (1874)		•			•	₩ 6
	Kheri, Oudh		•	•	٠.		48
O 340.	Gorakhpur		•	•	• •		41
C 8e5.	Bairagarh Rese	rve, B	erar		•		48
C 2988.	Jubbylpore (186	53)					43
C 1136.	Ahirik Reserve,	Centra	al Pro	vinces	5.		44
C 1245.	Gumsúr, Madra				•		49
E 2387.	Bamunpoki, Da	ırjeeli	ng Te	rai			50
B 2538.	Burma (1862)						43
No. 35.	Salem Collection	n					40
C 3543.	Khurda Forests	, Oris	sa.				43
C 3685.	Palamow, Chuti	a Nag	gpore	(1882))		44

A. sessilifolia, Hook. f. and Bth.

Syn.—NAUCLEA SESSILIFOLIA, Roxb.; NAUCLEA SERICEA, Wall.

Vern.—Kúm, BENG.; Kúmkoi, CHAKMA; Thaing, MAGH; Teingala, thitpayoung, BURM.

A small tree of Chittagong and Burma.

The wood's hard, yellow-brown. Weight 55 lbs.

Used in Chittagong for building purposes and firewood. In Clitta-

	. ÆGLI
gong it is perhaps the only gregarious tree, being commonly four	nd on
flat places on the banks of rivers. E 1391. Chittagong	
B 2537. Burma (1862)	•
E 3694. Chittagong (1882)	
ÆGIALITIS. •	
gialitis rotundifolia, Roxo., Plumbaginer.	- 38
A small evergreen treelet, found in the tidal forests of the Subans, Chittagong, Arracan, Burma and the Andaman Islands. The structure of the wood is very curious, resembling that the cotyledons. It consists of soft pithy substance with scar windpore-bearing wood resembling the fibro-vascular bundles but istinct in character.	of the
E 3544. Sundarbans	
ÆGICÉRAS.	•
Ægiceras corniculata, Blanco, Mursinez.	1
Syn.—A. MAJUS, Gaertn Roxb., Fl. Ind., iii, 130.) Vern.—Hal.i, khalski, Beng.: Bootayet, Burm. Kánjlá, chaweer, S	37
A small evergreen tree, met with in the coast forests and tidal of	
of the Western Coast, Beng. I, Burma and the Adaman Islands. Wood hard, close-grained. N' annual rings. Weight 40 lbs. Used for firewood and for native huts in Jessore.	
E 406. Sundarbans	
ÆGLE.	
Figle Marmelos, Corr.,utacer.	38
THE BAEL OF BEL FRUIT TREE.	V.
Vern.—Bél, Hind.; Bela, Beng.; Sriphal, Sans.; Lohagasi, I Auretpaug Magh.; Vilva-pasham, Tam.; Bela, bila, bilva, Ko Sind.; Maredu, Tel.; Maika, mahaka, Gond; Bela, Ku Bilapatri, Kan.; Okshit, Burm.	KOL.; ztoree, rku;
A small tree, found in cultivation all over India; grows in Himalayan forests from the Jhelum eastward, in Central and	Sub-
India, and in Burma.	1
Wood yellowish white, hard, with a strong aromatic scent tresh cut; no heartwood, not durable, readily eaten by insects. W 40 to 50 lbs. (Brandis); Wallich gives 49; our specimens average 5 Used in construction, for the pestles of oil and sugar-mills, naver other parts of carts, and for agricultural implements.	eight
P 441. Ajmere	
O 248. Garhwal (1868)	
C 1176. Ahiri Reserve, Central Provinces	ŀ
E 2486. Calcutta	
E 638. Goalpara, Assam	١٠.
B 504. Prome, Burma 60	.1
,•11	

A.S.	ART VII.	.] Economic Products of India.
¥.	AILAN, THUS.	
		ÆSCULUS.
	. 39	Æsculus indica, Colebr., Sapindace.
	۲,	THE INDIAN HORSE-CHESTNUT.
	•	Vern.—Torjaga, Trans-Indus; Húne, hanúdún, Kashmir; Bankhor, gugu, kanor, pánkar, Hind.
	•	A large tree, deciduous found in the North-West Himalaya, between
		4,000 and 10,000 feet, from the Indus to Nepal. Wood white, with a pinkish tinge, soft, close-grained. Weight
	٠,	34 lbs. per cubic foot. It is used for building, water troughs, platters, packing-cases and tea-boxes. The Tibet drinking cups are sometimes made of it.
		U or Matintas Cimia manafast
		H 166. Kangra, Punjab (1866(
		c H 936. Hazara, Punjab
	t,	H 776. Kalatop, Punjab, 7,000 feet 34
	40	Æ. punduana, Wall.
	41	Syn.—Æ. ASSAMICA, Griff. (Kurs, 286.) Vern.—Cherinangri, NEPAL; Kunkirkola, ekuhea, Ass.; Dingri, DUARS; Bolnawak, GARO.
		A moderate-sized, deciduous tree, found in Northern Bengal, in the Khasia Hills, Assam and Burma, ascending to 4,000 feet. Wood white, soft, close-grained. Weight 36 lbs. per cubic foot. Rarely used.
	. —	oE 3139. Buxa Reserve, Western Duars 36
		AFZELIA.
	41	Afzelia bijuga, A. Gray, Leguminosæ.
	-	Vern.—Shoondul, hinga, BENG.; Pynkado, BURM., IN THE ANDAMANS; Pirijda. dsagunda, AND.
		A moderate-sized evergreen tree, found in the Sundarbans of Bengal.
		Andaman Islands, and the Malay Archipelago. Sapwood white, moderately hard, relatively large in young trees. Heart-wood reddish-brown, hard, close-grained. Weight, young wood, 36 to 42 lbs.; old wood, 45 to 49 lbs. (Brandis, Memorandum on Anda-
		man Woods, 1874, Nos. 12 and 13, gives 50 lbs.) A valuable wood, used in the Andamans for bridge and house-building.
		E 403. Sundarbans
		E 415. ,
		B 315. Burma (1867) (Kohbeng) 49
		B 524. Andaman Islands 45
		B 2ē09. " " (1866) 48
		ATT ANTUTIC

Ailanthus excelsa, Roxb., SIMARUBEÆ.

Vern.—Arúa, MEYWAR; Maha rukh, HIND., MAR.; Mahanim, JRIVA;
Ghorkaram, PALAMOW; Peru pee, TAM., Pedu, pey, peddan Tel.;
Q hmi-kawat, URIYA.

A large tree, often planted in Central and Southern India.

	1 .
	ALBIZZIA
Wood soft, white. Structure similar to that of A. malabarica. Weight 28 lbs. per cubic foot. Used to make floats for fishing, sword handles, spear sheaths and	
catamarans.	
C 2784. Melghát, Berar	
Ailanthus malabarica, DC.	43
Vern.—Peru, Tam., Tel.; Dhúp, baga-dhúp, gogul-dhúp, Kan.; Manda-dúpa, Hassan.; Mát'i pal, Anamalais; Kambalu, walbiling, Cingh. A large deciduous tree, abundant in the Western Ghâts; rare in Pegu. Often planted in South India for ornament. Wood white, very soft and spongy. Weight 23 lbs. per cubic foot. Not used.	•••
W 746. South Kanara	
ALANGIUM,	
Alangium Lamarckii, Thwaites, CORNACEÆ.	44
Syn.—A MEXAPETALUM, Roxb. (Fl. Ind., ii, 502); A DECAPETALUM, Lam	44
(Kurs, i, 543.) Vern.—Akola, thaile, Hind.; Kalá akolá ankola, Bomb.; Akar-kanta, bagh ankurá, Beng.; Dela, Sonthal.; Kimri, Mal. (Sp.); Ankol, Kol.; Ankula, dolanku, Uriya; alangi, Tam.; Urgu, kudagu, Tel.; Ankola. Kan.; Uru, Gond. A deciduous shrub or small tree, met with in the Sub-Himalayan tract	i bor
from the Ganges eastwards, in Oudh, Bengal, and Central and South India. Sapwood light-yellow; heartwood brown, hard, close and evengrained. Weight 49 to 56 lbs.	
It is used for pestles for oil-mills, wooden cattle-bells, and other purposes, and is valuable for fuel.	
C 3116. Chanda, Central Provinces	
D 1082. North Arcot, Madras	
C 3564. Khurdha Forests, Orisa	
ALBIZZIA.	-
Albizzia amara, Boivin., Leguminosæ.	45
Syn.—A. AMARA and A. WIGHTII, Grah. (Beddome, t., 61, xcvi); MIMOSA AMARA and M. PULCHELLA, Roxb. (Fl. Ind., ii, 548.)	40
Vern.—Lallei, Dec.; Lulai, Bomb.; Thuringi, wúnja, suranji, shekram, TAM.; Naliarenga, shekrani, sikkai, narlingi, TEL.; Wusel, MADURA (MADRAS); Bel-khambi, KAN., Kadsige, Coorg; Oosulay, MAL.	
A moderate-sized deciduous tree met with in South India and the Dekkan.	
Sapwood large; heartwood purplish-brown, beautifully mottled, extremely hard, with alternate, concentric, light and dark bands. Skinner, No. 1, gives the weight at 70 lbs.; our specimens weigh 61 to 2 lbs. Skinner also gives P=1284, and says: "The wood is strong, fibrous and stiff, close grained, hard and durable, superior to sal and	•

Economic Products of India.

K. VVI	V 11.	1 • •	Lionomic	• Founcis	UJ IN	uiu.		
A ALBIZ	ZIA.		• •					
		used for the	verse strength and beams of native, ploughs." Bedd or the locomotives	houses and ome says i	l carts, t is a g	the wo	od of the	he crooked
			Salem, Madras Salem Collection	: :	:	:	: :	61 62
•	46		brissin, <i>Boivin</i> . Siris.					• ,
	(° c	Vern.—	MIMOSA KALKORA, i Sırı́n, kurmru, sura !, PB. ; Lal siris, ba :.	ngru, shirs	h, shish	i, búna,	tandái, IIND.;	mathirshi Kalkora (?)
,		the Indus to Sapwood beautifully manner. Weigh	rate sized daciduo 6 Sikkim, ascendi large; heartwood nottled, shining. ht 43 to 52 lbs. per make furniture.	ng to 5,000 l dark-bro Annual ring	o feet. own, alt gs distir	nost b	lack in	old trees
	1	Н 97.	Sutlej Vall vy , Sin Sainj, Simla, 4,00	fila, 4,000 fo o feet .	eet	:	·• :	1bs. * 52 43
	47		SIRIS TREE.	,	•	•	•	
		Vern.— Tinia Dira: bengl Beyn	ACACIA SIRISSA, Ros Siris, sirin, sirár, 1, URIYA; Harreri, 5an, darshana, kat ha, KAN.; Chichola 1adú, gachodá, ANI	kalsii, tanti PANCH Me vage, ped MAR.; Sir	asa, sur	Be, Sini	o.; Aor	on, BURM.
		India; grow in Bengal, B Sapwood tled, with de	spreading tree, in the Sub-Historia, and Centra large, white; hea	malayan t l and Sout rtwood da gitudinal s	ract fro h India irk-brov treaks.	m the vn, hai The	Indus d, shir annual	eastward ning, met- l rings in
		60 lbs. per c durable.	in the Punjab are ubic foot. It seas	ons, works	and po	lishes	well, a	nd is fairl
		wheel-work; large size are house-posts.	I for sugarcane cr in South India fo e procurable, it is It is often grown ry deep. It grow	r boats. I used for as an ay	n the A buildinenue t	ndama ng, but ree, bu	ins, who more i	ere trees of usually for ots do no
		P 1193. P 06.	Madhopur, Punj Bhajji, Sutlej Va	ab . llev. 3.000	feet	•		1bs. 47 43
		P 881. P •468.	Multán . Ajmere .		•	•	•	49 55
		W 728. W 748. W 751.	South Kanara.		•	•		41 51 44
		B 1453. B 2208.	Prome, Burma Andaman Island	is,		•		48 43
		No. 81. C 356an C 3567.	Ceylon Collection Khurdha Forest	n (marked s, Orissa "	Acacia	specio:	1912) . • •	4 5
		T 4 ·	"				-	7'

	-			• _			ALBIZZ
driin terni	de 7217		•	•			/ /0.
Ibizzia lucio	-	•				• •	40
	IIMOSA LUCIDA,				T ===		1 .
veril,—	Sil koroi, BENG. Ass.; Gunhi, M	; I apria-si	ris, NEPA	L; Ngre	iem, LEI	CHA; Mess	- 1
	leciduous tree,				al and I	Rurma	1
	d hard, brown,						1 1
	d, concentric ba						
	and good,			3.450	ros Heri	Cubic icon	· 1
	•			•		lbs.	. 1
. E 660.	Bamunpokri, D	Darjeeling	Terai	•	•	• 55	<i>†</i>
E 677.	,,	,,,	"			. 61	1
. odoratissi					•		49
	Mimosa odorati						
Vem	-Lasrín, karmbri	i, polach,	PB.; Siri	s, siran,	bhanir,	bersa, bas	5
basse Chick	ın, oansa, nı	ND.; Chia	cnwa, ch s Pando	ncnota, rai Kor	yerjooni	KUADEVAR	! ↓
Laok	ri, MECHI; Kalı	harreri.	PANCH	MEHALS	Tedon	e LEPCHA	'
Jati-	koroi, Ass; Ko	roi, Cachi	AR; Ral-t	huringi,	kar vag	rhe, bilwara	·,
solon	ianim, sela vanje	u, IAM.;	Shinduga hillomor	, chindu	, telsu,	yerruchinto	2
cha?u	in, bansa, Hi iora, Kurku; I ri, MECHI; Kali koroi, ASS; Ko nanim, sela vanj vage, TEL.; Pi da, MAR.; Siras	. Вомв.» А	Loore max	a. Cing.	: Thitm	arvi. Burm.	
A large	deciduous tree	e. met wi	th in the	Sub-Hi	malava	n tract from	n
	astwards, ascen						
	South India.	8	,,,,,,,	., 20	6, -	, a	_
	l large, white;	heartwoo	d dark-b	rown wi	th darl	ker streaks	;
	Dark, narrow,						
with bands o	of lighter colour	r. It seas	ons, wor	ks and j	polishes	well, and i	s
fairly durab	le. Weight 42	to 60 lbs.	per cub	ic foot.		_	- 1
It is used	d for wheels, oil	l-mills and	l furnitui	re.		•	×
n	Namakan Fa	1:-				lbs.	l
P 3223.	Nagpahar Fo		nere .	•	•	• •••	ł
O 205.	•			•	•	• 43	İ
		tral Provi	ncec (18:	رمر د	•	• •••	1
C 184. C 1122.					•	. 60	1
C 2748.					•		1
E 2360.					•	· 59	
W 725.					-	· 59	
W 1189.	,, ,,					. 42	1
D 1084.	North Arcot		•		•	. 52	ł
B 290.	Burma (1867)					• 53	1
B 3121.	,, (1862) .			· . •	. 57	İ
B 1427.		•	•	2.	•	· 57	i
B 2231.		866) .		. •.	•	. 56	1
No. 8.	Salem Collect	ion .	•		•	. 52	
۸	70 17			•			F0
A. procera,		n ,					50
	-Mimosa elata,						1
Vern	—Safed siris, gu	ırar, karra	, karo, k	ıranji, ş	rurbari,	gurkár, bat	ro,
kar	olu, garso, Hind	.; Karailu	, kini, kin	ai kilai,	kili, tihii	ri, Bom. ; Si	tto
siri Sar	s, NEPAL; Takn apatri, URIYA;	ur, LEPC Dasserpinn	ла ; д <i>от с</i> i. Gond	r, DENG Kinni	, ASS.; Buft.	Gurar MAR	· ;
Kon	ida vaghe, TAM	; Pedda	patseru.	tella son	ara, tel	la, chindas	u,
TEI	ida vaghe, TAM ; Chikul, KAN.	; Choi, M	Гасн.; Śe	et, Buri	ı.; Búrd	á, AND.	
A large	. deciduous, fas	st-growing	r tree fou	ınd in :	the Sul	o-Himalaya	an I
fact from	the Jumna ea	astwards,	in Beng	gal, Sat	pura Ra	inge, in t	he 🖣
entral Pi	rovinces, Guzera	at, South	India an	d Burm	a. ¬	•	ľ

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Sapwood large, yellowish-white, not darable; heartwood hard, brown, shining, with alternate belts of darker and lighter colour. The wood is straight and even-grained, seasons well, and the heartwood is durable. Weight 26 to 60 lbs. per cubic foot.

It is used for sugarcane crushers, rice-pounders, wheels, agricultural implements, bridges and house posts. It is used by tea-planters for stakes for hying out tea-gardens, as it is found to split well, and occasionally for tea-boxes and for charcoal, for which it is found to be very

									lbs.	
	O 220.	Garhwal (1868)							41	
	O 3004.	,, (1873)	•		•		•		44	
	C 2746.	Jamui Forest, Bera	ır (saj	pwood	l)			•	26	
	E 2361.	Bamunpokai, Darje	eeling	Tera	ıi	•	•	•	37	
	E 949.	Eastern Dúars, As	sam	•	•	•	•		51	
Œ	E 1263.	Tezpúr, Assam		•	•	•	•		58	
	E 2194.	Nowgong, Assam	•	•	•	•	•		42	
	E 1955.	Chittagong .		•	•		•	•	43	
		Burma (1867)	•	•	•	•	•	•	39	•
	B 811.	,, , , , ,	;	•		•	• 、	•	60	
	B 2527.	" (18 6 2) "	•	•	•	•	•		41	
	B 506.	Andaman Islands	•	•	•	•	•	•	53	
	B 518.	» »	: .:.	.•	•	•	•	•	46	
	B 2247.	» »	(1866)	•	•	•	•	41	

Albizzia stipulata, Boivin.

Syn.—Mimosa stipulacea, Roxb. (Fl., Ind., ii, 549.)

Vern.—Oë, oi, sirin, shirsha, kasir, PB.; Siran, kanujera, pattia, samsundra, Hind.; Chapún, keri scrum, Kól.; Bunsobri, Mechl.; Kala siris, Nepal.; Singriang, Lepcha; Sow, Ass.; Selcho, Garo; Chakua, amluki, Beng.; Kat turanji, Tam.; Konda chiragu, chindaga, Tel.; Udala, Bomb.; Kal baghi, hote baghi, Kan.; Kabal, Cingh.; Pokoh, Magh.; Boomai-sa, Burm.

A large, deciduous, fast-growing tree, met with in the Sub-Himalayan tract from the Indus eastwards, ascending to 4,000 feet; in Oudh, Bengal, Burma, and South India.

Sapwood large, white; heartwood brown, generally not durable, soft, shining. Weight 25 to 45 lbs. per cubic foot.

It is said by Beddome, probably quoting Skinner, to be used for building and for naves of wheels. Kurz says it is good for cabinet work, furniture and similar purposes. Brandis' Burma List, 1862, No. 27, says it is prized for cart-wheels and for the bells of cattle. In Bengal it has been tried for tea-boxes, for which purpose it will pro-

bably suit well; also for charcoal. Said to be much in use in South Kanara.

										lbs.
Н	603.	Kangra, Pi	ınjab		•					29
О	217.	Garhwal (1	868)		•	•		•		28
C	2989.	Jubbulpore,	Cent	ral Pro	vince	5 (186	ნვ)	•		39
E	647.	Bamunpokr	i, Dar	jeeling	Tera	i	•	•	•	26
E	2362.	, ,,		99	33		•	•		29
E	788.	Kamrúp, A	ssam	•	•		•	•	•	40
		Chittagong	•	•	•	•	•	•	•	25
В	80g.	Burma .		•	•	•	•	•	•	36
В	2528	186) پر _		. •	•	•		•	•	33
B	2221.	Andaman Is	slands	(1866)		•	•	•	•	45
16	•									- /

Zimbars.	PART V
ALLOPHYŁLUS.	ALSEODA PHNE.
Allophylius Cobbe, Bl., Sapindace E. Syn Ornitrophe Cobbe, Willd. (Roxb. Fl., Ind., ii, 268); Schmidelia (Cobbe) Beddome, Ixxiii. Vern.—Thaukjot, Burm. A deciduous shrub of Eastern Bengal, South India, Burma and the Andaman Islands. . Wood grey, soft. B 1988. Andaman Islands (Kurz, 1866)	.5 2
ALNUS.	
Alrus nepalensis, D. Don., Betulacer. The Nepal Alder.	53
• Vern.—Kohi, PB.; Udesh, Kumaun; Udis, utis, Nepal; Kowal, Lep- CHA. A large and tall, sparsely-branched, deciduous tree, whose leaves soon become completely perforated by insects. It occurs from the Ravi east- ward, between 3,000 and 9,000 feet in altitude, to the Khásia and Naga Hills. Wood similar to that of A. nitids, but the pores are fewer and somewhat larger, and the broad medullary rays are very broad and very numerous.	
It is used for tea-boxes in Darjeeling. H 83. The Glen, Simla, 6,000 feet	
A. nitida, Endl. Vern.—Shrol, saroli, sawáli, rikunra, chámb, piák, kúnsa, mű, kosh, chapu, rajan, kúndash, PB.; Paya, udesh, KUMAUN.; Gíra, Afg. A large tree, met with in the Punjab Himalaya, ascending to 9,000 feet. Wood reddish-white, soft, close and even-grained, tough to cut; annual rings distinctly marked by harder wood near the inner edge of each ring. It is used for bedsteads and for the hooked sicks of rope bridges.	·
H 119. Vaziri Rupi, 6,000 feet	
ALSEODAPHNE.	
Alseodaphne, Sp. LAURACRE.	55
Vern.—Dowki poma, Ass. A tree met with in Assam. Wood soft, red, even-grained. Used for boats, furniture and build in the contract of the co	
Ibs.	\cdot

1	-	100		•	D		
b	24.0		Ю	u	м.	м	

ALSTONIA.

Alstonia scholaris, *R. Be.*, Apocynace**æ.**

Vern.—Chatwan, chatinn, Beng; Satiún, chatiún, satwin, satni, HIND.; Chhatnia, Sonthal and Mal. (S. P.); Chatin, bomudu, Kol; Chhatiana, Uriya; Chatiwan, Nepal; Purbo, Lepcha; Satiana, Ass.; Satwin, Mar.; Sattni, Cachar; Pala, wodrase, Tam.; Eda-kula, pala garuda, Tel.; Mukampala, Mal.; Yanthalla, Kan; Rookattana, Cingh.; Chaile, chalain, Magh; Let-top, toungmayobeng, Burm.

A tall evergreen tree, found in the Sub-Himalayan tract from the Jumna eastwards, ascending to 3,000 feet, in Bengal, Burma, and South India.

Wood white, soft, even-grained, seasons badly, and soon gets mouldy and discoloured. It is not durable, but is easily worked. Weight about 28 lbs. per cubic foot.

It is used for boxes, furniture, scabbards, coffins and other purposes,

and is made into blackboards in Burma. It is used occasionally in Darjeeling, Assam and Cachar for tea-boxes.

E 577.	Khookloong Forest, I	Darjee	ling T	erai	•		28
E 718.	Chittagong	·					28
E 1270.	Lakhimpur, Assam			•		•	31
W 863.	South Kanara .	•	•	•	4	•	28
No. 75.	Ceylon Collection .						26

ALTINGIA.

57

Altingia excelsa, Noronha, HAMAMELIDEÆ.

Vern.—Jutili, Ass.; Nantayop, BURM.

A lofty deciduous tree, met with in Assam and Tenasserim.

Wood soft, reddish-grey with lighter streaks. Annual rings marked by a narrow belt of firm wood without pores. Weight 46 lbs. per cubic

Used in Assam for building and ordinary domestic purposes.

E 1269.	Lakhimpur, Assam .	··.		46
B 2704.	Brought from Tavoy by Dr.	Wallich	in 1828.	*-
4.	Resembles this in structure	•		48

AMOORA.

58

Amoora cucullata, Roxb. Meliacem.

Syn. - Andersonia cucullata, Roxb. (Fl. Ind., ii, 212).

Vern.—Amúr, latmí, natmi, Beng.; Thitnee, Burm.

A moderate sized evergreen tree, met with in the coasts of Bengal and Burma.

Wood red, hard, close-grained, but apt to split. Weight 44 lbs. Used for posts and other purposes in Lower Bengal, and for firewood in the Sundarbans. per cubic foot.

i the Sulida	ir bans.				. i	
					lbs.	
	Sundarbans .	•	•	•	44	
F 2607	Sundarbans (1882)			_	. 42	

	Timbers	. 		<u>ړ .</u>	ART
6 :	•		,	1.	ÁŅAC
- ·	•			. [•	DIU
moora deca	ndra, <i>Hiern</i> .			1	59 .
		_			. •
Wood pin	kish-white, hard.		to 6,000 f	eet.	•
Amoora decandra, Hiern. Vern.—Tangarák, Lepcha. A tree found in the Eastern Himalaya, from 2,000 to 6,000 feet. Wood pinkish-white, hard. E 3392. Lebong, Darjeeling, 5,500 feet. A. Rohituka, W. and A. Byn.—Andersonia Rohituka, Rozb. (Fl. Ind., ii, 213). Vern.—Rohituka, Sans.; Harin harra, harin khana, Hind.; Sikru, Kol. Sohaga, Oudh; Tikaraj, pitraj, Beng.; Bandriphal, Nepal.; Tangarák, Lepcha; Lota amari, amora amari, Ass.; Okhioungaa, okhyang Machi; Chem-maram, Mah.; Thimee, Byrm. An evergreen tree met with in Oudh. Assam, Northen and Eastern Bengal, Western Ghâts, and Burma. Wood reddish, close and even-grained, hard. The concentric band in this species are remarkable, as they are absent from the two othe species. A verage weight 407 5 lbs. per cubic foot. Good, but little used. In Chittagong canoes are sometimes made of it is species. A serage weight 407 5 lbs. per cubic foot. Good, but fittle used. In Chittagong canoes are sometimes made of it is a special property. Assam 30 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		l			
Robituka.	W. and A.	•		1	60
		(Fl. Ind., ii. 2	272).	1	
Vern.—/	Rohituka, SANS.; Harin harra	harin khand	HIND. : Si	kru, Kol.;	,
Sohág	a, Oudh; Tikta-raj, pitraj,	BENG.: Bana	dribhal. Ne	PAL: Tan-	
Magh	; Chem-maram, MAL.; Thit	umuri, Ass.; nee, Byrm.	Oknioung 80	i, ornyang,	
An evergr	een tree met with in Oudh		rthe s n and	I Eastern	
Bengal, West	ern Ghâts, and Burma.	.11. 1 2	n.	• • •	
wood rec	idish, close and even-grain	ed, hard.	from the	tric bands	
species. Ave	rage weight 40'5 lbs. per o	cubic foot.		1	
 Good, but 	little used. In Chittagong	canoes are s	ometimes r	nade of it.	يَ سر. و
•	• •			. 1	
O 1362.	Gonda, Oudh				
E 2331.	Mangwa, Darjeeling, 6,00	o feet .			
E 711.	Cnittagong	• •	• • •	45	
	-			• • 1	'nξ
		ntown! ·		.1	
Rurma.	cen nec, round in the Ea	stern moist a	zene, in A	ssam and	
	d, hard, close-grained; di	rable, and	takes a go	od polish.	
Weight 48 lb	s. per cubic foot.		_	F	
Used for	boat-building and furnitur	e in Assam,		1	
F	Tomus Asses			lbs.	
		• •	• •		
2.92.	110480118) 1133atti	• •	• •	40	
	_				
	ANACARD	UM.	•]	
nacardium)		62
			•	1	
•		HIND.; Mun	diri, kottai.	kolamana.	
Tam. Buri	; Jidi mamidi, TEL.; Jidi, 1 1.	kempu géru, l	KAN.; Thee-	noh thayet,	
A tree,	30 to 40 feet; originally	Introduced i	rom South	America,	
and the And	laman Islands, and over Sc	outh India.		- 1	
Wood rea				-	
foot.	naching cases in Rurma L	or boat-build	ing and ch	arcoal.	
foot.	Packing cases in Durina, it	or boat-build	6		
foot.	packing cases in Durina, it	or boat-bund	g ua u.	1	•
foot.				lbs.	٠.
foot. • Used for	Andamans (1866)		•	1	•.

NOGEIS-SUS. ANDRACHNE. Andrachne cordifolia, Müll., Arg., Euphorbiace E. :63 Vern. - Kurkni, gurguii, Jhelam; Bersu, Chenab; Barotri, madare, RAVI; Mútkar, chirmútti, pin, BEAS; Tsátin, SUTLEJ. A smalleshrub, met with in North-West Himalaya, from the Indus to Nepal ascending to 8,000 feet. Wood white, moderately hard, close grained. Weight 45 lbs. per cubic foot. lbs. H 2945. Jander, Sutlej Valley, 3,500 feet 45 ANISOPHYLLEA. 64 Anisophyllea zeylanica, Benth., Rhisophorek. Vern. — Wellipyanne, CINGH. A tree of the southern and central parts of Ceylon ascending 1,500 feet. Wood greyish-brown, moderately hard. lbs. No. 96. Ceylon Collection '. 35 ANOGEISSUS. Anogeissus acuminata, Wall., Combretace E. 65 Syn.—Conocarpus acuminata, Roxb. Vern.—Chakwa, Beng.; Gara hesel, pandri, pansi, Kol.; Panchi, pasi, URIYA; Numma, TAM; Pachi manu, panchman, paunchinan, bucha karum, pashi, pansi, Tel.; Phús, MAR.; Saikamehhia, thekri napay, MAGH; Yung, sehoong, ARRACAN; Yungben, BURM.; Phassi, MAR. A large, deciduous tree, met with in some districts of Bengal, Oris-a, South India, Chittagong, and Burma. Wood grey, sometimes yellowish-grey with a greenish tinge, shining, in structure moderately hard, resembling that of Anogeissus latifolia. It warps and cracks in seasoning, and is not very durable, especially where exposed to water. Weight 57 lbs. per cubic foot. Used in Burma and in Madras for building. Roxburgh says it is durable if kept dry, but soon decays if exposed to wet. lbs. Ahiri Reserve, Central Provinces C 1143. 57 Burma (1862). B 3204. Prome, Burma The Central Provinces and Burma woods correspond exactly in structure. C 3462. Saranda forests, Chutia Nagpur A. latifolia, Wall. 66 Syn.—Conocarpus latifolia, Roxb. (Fl. Ind., ii., 442.) Vern. – Dhaura, dhauri, dhau, dhawa, dhauta, dohu, bakla, bakli, HIND.; EII.—Dnaura, andurt, dhau, anawa, anauta, aonu, oakla, oakli, fiind.; Gólra, goldia, dhaukra, dhokri, dau, RAJ.; Khardháwa, BANDA, Vellay naga, namme, verkali, TAM.; Chiriman, sheriman, yettama, tirman, yetla maddi, TEL.; Dohu, dhobu, URIYA; Hesel, Kol. and Sonthal.; Dhau, MAL. (S. P.); Dháori, dhamora, dhaunda, dandua, dhavada, MAR.; Dinduga, dindlu, bejalu, dindal, KAN.; Arma, yerma, Gond.; Dhawa, BAIGAS; Dhaundak, BHIL; Dhaura, KURKU; Daawoo,

A large tree, met with in the Sub-Himalayan tract from the Ravi

eastwards, ascending to 3,000 feet, in Central and South India.

20

С∷ън.

ANONA.

Wood grey, hard, shining, smooth, with a small purplish-brown, irregularly shaped, extremely hard heartwood. Sapwood in young trees and branches yellow. Annual rings marked by darker lines. Weight about 65 lbs. per cubic foot.

It is highly valued on account of its great strength and toughness,

but it splits in seasoning and unless kept dry is not very durable.

It is used for axe handles, poles for carrying loads, axies, in the construction of furniture, agricultural implements, and in ship-building. It has been recommended for sleepers. Out of 18 sleepers which had lain seven to eight years on the Mysore State Railway there were found, when taken up, four good, ten still serviceable, and four bad. It gives a good fuel and an excellent charcoal.

								_	108.	
P	446.	Ajmere .	•		•			•.	•••	20
О	233.	Garhwal (1868)			. •				68	
О	2997.	" (1874)					. •		64	
Ο	531.	Dehra Dun .							62	•
О	394.	Oudh							б2	
C	2776.	Melghát, Berar			·				59	
• C	100.	Mandla, Centra		inces ((1870)				58	
С	1121.	·Ahiri Reserve,							65	
С	2744.	Moharli Reserv	e. Cent	ral P	covince	s			55	
	1244.	Gumsúr, Madra				٠.	•		Q 6	
	1282.	Amamalai Hills		as	-	•	·	-	56	
	. 21.	Salem Collection			•	•	•	•	60	
	3562.			sa .	•	٠.	•	•	62	
	3684.	Palamow, Chut			1882)		•	•	56	

Anogeissus pendula, Edgw.

Syn. - CONOCARPUS MYRTIFOLIA, Wall.

Vern .- Dhau, dhaukra, kala dhaukra, MEYWAR; Kardahi, HIND.

A small gregarious tree with pendulous branches, found in the arid and northern dry zones of Rajputana, Malwa plateau, as far as the Nerbudda, in Nimar, Mandla District, and on the Nerbudda (?)

Wood hard, yellowish-white, with a small, irregular, blackish-purple

heartwood. Weight 59 lbs. per cubic foot.

It coppices well, but the wood is not in general use.

P 454. Aimere.

ANONA.

Anona reticulata, Linn., Anonace ...

THE BULLOCK'S HEART.

Vern.—Nona, BENG.; Ramaphala, BOMB.; Ramsita, TAM.

A small tree, common everywhere; wild apparently in some districts, but chiefly met with in cultivation.

Skinner, No. 14, gives 40 lbs. as the weight per cubic foot. *

A. squamosa, Linn.

CUSTARD APPLE.

Vern.—Sharifa, sitaphal, Hind.; Ata, lúna, Beng.; Mondalkon, Sonthal; Sirpha, Mal.; Sita, Tam.; Sitapundu, Tel.; Atta, Mal., Cingh.; Ausa, Burm.

A small tree, the Sweet-sop of the West Indies, naturalised in Bengal, the North-West Provinces and Burma.

21

68

PART VII.	Economic Products of India.
ANTIDES-	Wood soft, close-grained. Weight 46 lbs. per cubic foot.
•	B 2317. Myanoung, Burma
- 1, 1	ANTHOCEPHALUS.
70	Anthoceptalus Cadamba, Bth. and Hook. f., Rubiacæ. Syn.—Nauclea Cadamba, Roxb. (R. Ind., i, 512; Beddome, t, 35); Sarcocephalus Cadamba (Kurs, ii, 63.)
٠.,	Vern.—Kaddam, karam, HIND., BENG.; Bol-kadam, CHITTAGONG; Sa.iko, Kól.; Pandúr, LEPCHA; Kodum, MECHI; Roghu, Ass.; Kadambo, URIYA; Vella cadamba, TAM.; Kadambe, rudrak-shamba, TEL.; Heltega qrsanatega, Mysore; Kadam, MAR.; Kadda vailu, kadaga, kadwal, RAN.; Halamba, CINGH.; Maoo, sanyepang, MAGH; Maoo, maookadoon, Burm.
ø	A large deciduous tree, wild in Northern and Eastern Bengal, Pegu and the Western Coast; cultivated in Northern India. Wood white, with a yellowish tinge, soft, even-grained. Weight about 40 lbs. per cubic foot. It is used for building; in Assam, Cachar and occasionally in
-	Darjeeling for tea-boxes. Cunningham (1854) says that it is used for beams and rafters on account of its cheapness and lightness, and that it is good for joiner's work, but that it is a brittle wood.
¶7 ^{€ 8} 1	E 650. Rakti Forest, Darjeeling Terai
	ANTIDESMA.
71	Antidesma Bunias, Spreng., EUPHORBIACEÆ. Vern.—Himal cheri, NEPAL; Kantjer, LEPCHA. A small tree of North and East Bengal. South India, and Tenasserim
72	E 2430. Chenga Forest, Darjeeling Terai. Weight 46 lbs. A. diandrum, Tulasne. Syn.—Stilago diandra, Roxb. Vern.—Amli, amari, sarshoti, gür-mussureya, ban-mussureya, dhakki Hind.; Multa, Beng.; Mata, ara, Sonthal; Amtua sag, Mal. (S. P.) A small tree formed in Garhwal, Kumaun, Oudh, Bengal, Soutl India and Burma commmon in the hill forests of the Sonthal Pergunnahs
	Wood pinkish-grey, hard, close-grained. Weight 41 lbs. per cubi foot.
	O 1308. Gonda, Oudh
73	A. Ghæsembilla, Gaertn. Syn.—A. Pubescens, Willd., and A. Paniculatum, Roxb. (Fl. Ind., vi. 769, 770.) Vern.—Khúdi jamb, limtoá, Beng.; Umtoá, Hazaribagh; mata sure Kol.; Pulsur, polari, jana-pa-laseru, pollai, Tel.; Jondri, Mar.
	Byaitsin, Burm.; Boo ambilla, Cingh. A small deciduous tree, met with in Nepal, Oudh, Bengal, Burma Chanda district, and South India.
c.	22 . p.

Timbers.	PART
•	AQUI
Wood red, with darker coloured heartwood, smooth, hard, close and even-grained. Weight 49 lbs. per cubic foot.	RIA
G 1161. Ahiri Reserve, Central Provinces	•
Antidesma Menasu, Müll. Arg. Vern.—Kumbyung, tungcher, LEPCHA; Kin-pa-lin, Bukha A small tree, found in Sikhim, Khasia Hills, Burma and the Andaman Islands.	74
• Wood red, structure similar to that of A. Ghæsembilla, but the pores smaller and the medullary rays finer. Weight 52 lbs. per cubic foot.	
E 2431. Chenga Forest, Darjeeling 52	
APOROSA. •	
Aporosa dioica, Mull. Arg., Euphorbiace E. Syn.—A. Roxburghii, Baill; Alnus dioica, Roxb.; Lepidostachys Roxburghii; Wall.	75 •
VernKokra, BENG.; Sanpau, GARO; Taybrengjan, MAGH. A tree of North and East Bengal and Burma. This tree has by botanists been identified as the same which yields in the West Indies the Coco-wood of commerce. The Indian plant should be carefully examined to ascertain if the wood obtained from it is of equally good quality with that obtained from the West Indies. A specimen of commercial Coco-wood bears the number 2925. It is a dark-brown, very hard, close-grained wood with white sapwood weighing 79 lbs. per cubic foot.	•
AQUILARIA.	
Aquilaria Agallocha, Roxb., Thymeleacee.	76 ^
CALAMBAC, AGALLOCHUM OF ALOE-WOOD OF EAGLE-WOOD.	
Vern.—Ugúr, agar, HIND., BENG.; Ayaloogi, ayuloogin, yellanjooi, ARAB.; Ayaloor-chee, oud, oud-hindee, PERS.; Hindiagara, BOMB.; Sasi, ASS.; Akyau, BURM.; Kayu, garu, MALAY; Nwahmi, SIAM; Nyaw-chah, CHINESE; Kihay, sinnah, CINGH. A large evergreent ree of Sylhet and Tenasserim; distributed to the	
Malay Peninsula and Archipelago. Wood white, soft, even-grained, scented when fresh cut. Weight about 25 lbs. per cubic foot. In the interior of old trees are found irregular masses of harder and darker coloured wood, which constitute the famous Eagle-wood of commerce, called Kaya garu by the Malays, and Akyau by the Burmese. (Ugúrú Sans.).	
It appears that the Akyau is the most important forest produce of the forests of South Tenasserim and the Mergui Archipelago. It is found in fragments of various shapes and sizes in the centre of the tree and usually, if not always, where some former injury has been received.	
To collect it the trees are felled and allowed to rot for about three years in the forest, when they are again visited, the tree cut into fragments, and the odoriferous wood cut out. Mr. Lee says that most usually the Akyau's found in the sapwood.	
Ibs.	2
E 951. Golaghat, Assam	
B 2485 ,,	•

AREĆA.

ARAUCARIA.

Araucaria Cunninghamii, Ait.

A large and handsome evergreen tree of Australia (Queensland), occasionally planted for ornament in Calcutta.

Wood soft, light yellow, perishable.

E 3720. From a tree blown down in 1881 in the R. B. Gardens, Calcutta,

ARDISIA.

Ardisia crispa, DC., Myrsine E.

Syn .- A. CRENULATA, Vent.

Vern .- Chamlani, NEPAL; Denyok, LEPCHA.

A small erect shrub, met with in Eastern Himalaya, from 4,000 to 8,000 feet, and at Martaban at similar elevations.

Wood white, moderately hard. Very common undergrowth in the hill forests.

E 3315. Pugraingbong, Darjeeling, 6,000 feet.

78 A. humilis, Vahl.

Syn. A. SOLANACEA, Roxb. (in Gamble, Willd.)

Vern.—Banjam, Beng.; Bisi, Mal. (S. P.); Kudna, URIVA; Conda-mayúr, Tel.; Kantena, mayarawa, C. P.; Bodina gidda, Mysore; Gyengmaope, Burm.

cA small shrub met with throughout India ascending to altitude 5,000 feet.

Wood grey, moderately hard.

C 3463. Bandgaon Ghât, Chutia Nagpur.

79 A. involucrata, Kurz.

Vern. Denyok, LEPCHA.

A small shrub, 3 to 6 feet, with yellow corky bark, altitude 2,000 to 5,000 feet, in Sikkim.

Wood pinkish-white with small scanty pores and broad white wavy medullary rays.

E 3350. Sivoke Hills, Darjeeling (1,500 feet.)

80 A. paniculata, Roxb.

A small tree of the Khasia Hills and of Chittagong with handsome pink flowers. The bark is thin, greyish-brown, and the wood pinkish white, with small pores radially disposed between the short, broad, wavy medullary rays.

E 3367. Kasalong Reserve, Chittagong.

ARECA.

81 Areca Catechu, Linn., PALMÆ.

THE ARECA NUT OF BETEL PALM.

Vern.—Supari, HIND.; Gua, BENG.; Poka, oka, vaka, Tel.; Camugu, paku, TAM.; Adike, KAN.; Supari, BOM.; Adaka, cavugu, MAL.; Puwak, CINGH.; Kwam-thee-beng, BURM.; Ah-búd-dah, ah-pur-rud-dah, AND. Cultiva ed throughout Tropical India.

One of the most elegant of Indian palms, with a thin straight stem

ARTOCAL

「Part

· PUS. and crown of leaves like arrows stuck in the ground. The spathe which covers the flowering axis may be used for paper-making.

A tall tree, attaining 100 feet in height, with a slender, cylindrical, annulate stem, the inner part of which is generally hollow. Vascular bundles brown, forming a hard rind on the outside of the stem. Weight 57 lbs. per cubic foot. Used for furniture trenails, bows, spear handles, and for scaffolding poles in Ceylon. 419. Sundarbans . W 769. South Kanara No. 73. Ceylon Collection 57 Areca gracilis, Roxb. Syn .- PINANGA GRACILIS, Kurs. Vern .- Gua supari, ramgua, BRNG.; Khur, LEPCHA; Ranga, Ass. A slender-stemmed palm, often gregarious, found in undergrowths of damp forests in Sikkim, Assam, Eastern Bengal and Burma. It is used for native huts and roofing in Assam. The outer portion is hard and closely packed in fibro-vascular bundles; the inner is soft as the cane shrinks in drying. E. 3425. Dalingkote, British Bhutan. ARGYREIA. Argyreia speciosa, Sweet, Convolvulacer. 83 THE ELEPHANT CREEPER. Syn.—LETTSOMIA NERVOSA, Roxb. (Fl. Ind. i. 488). Vern. - Samudra soka, Bom. An extensive climber, found from Assam to Belgaum and Mysore, frequent in Bengal. Stems stout, white-tomentose. ARTEMISIA. Artemisia vulgaris, Linn., Compositæ. WORMWOOD, FLEABANE. 84 Vern. - Naga, naga-dona, dona, HIND., BENG.; Titapat, NEPAL. A gregarious shrub, coming up on old cultivations between 3,000 and 6,000 feet in the Sikkim Hills, and often covering large tracts of land until killed down by the tree growth which succeeds it. Wood grey, hard. Its ashes when burnt are considered to give a good manure for cultivation. E 2857. Tukdah Forest, Darjeeling, 5,000 feet.

ARTOCARPUS.

Artocarpus Chaplasha, Roxb. (Fl. Ind., iii, 525.) URTICACEÆ.

Vern.—Chaplash, chaplis, Beng.; Lut-ter, Nepal.; Chram, Garo.; Sam, Ass.; Cham, Cachar.; Pani, toponi, Magh.; Toungpeingnai, Burm.; Kaita-da, And.

A lofty deciduous tree, met with in Eastern Bengal, Burma and the Andaman Islands.

RTOCAR-PUŞ. .

Wood yellow to brown, moderately hard, even-grained, rough, durable, seasons well. It seems to get harder and heavier as it gets older; two specimens from the Andaman Islands cut in 1866 and stored since then in Calcutta give respectively 46 and 52 lbs., and Skinner gives 63 lbs., but this is probably a mistake.

It is much used for canoes; in Sikkim and Assam for planking, tea-

boxes and furniture.

			_						lbe.
E 587.	Khookloong	Fore	st, Darj	eelin	g 7	Cerai (y	oung)		30
E 629.	Eastern Dú	ars, A	Assam		٠.		•		32*
E 2301.	Kámrúp, A	ssam		•		•	•		33
E 2186.		,,	•	•		•	•	•	35
E 721.	Chittagong	•					•		33
B 2554.	Burma (186				•	•	•		39
В 2693.	Tavoy (Wa	llich,	1828)				•	•	37
B 2683.	• ,, (,	,	, ,)	•	•	•	•	•	32
B 2204.	Andaman I	sland	s , (1866))	•	•	•	•	52
B 2211.	,,	,,	99		•		•	•	33
B 2289.	,,	,,,	99	•	•	•	•	٠	46
B 512.	,,	99	99	•		•	•	٠	34
B 2499.	1	33	-(Home	. 18	74,	Nos. 4	and 5		31
	~		-, -			•	- 3,	(48

Artocarous hirsuta, Lamk.

Vern.—Ayni, anjalli, aiyanepela, TAM.; Aini, ansjert, MAL.; Hebalsu, heb, halasu, hesswa, hessain, KAN.; Hebalsu, pat-phanas, ran-phanas,

A lofty evergreen tree of the forests of the Western Ghâts, ascend-

ring to 4,000 feet. Wood hard to very hard, yellowish-brown, durable, seasons well.

Weight about 35 lbs. per cubic foot.

Much used on the western coast for house and ship building, furniture and other purposes.

_										lbs.	
			, Madras		•	•	•	•	•	32	
		North F	∢anara	•	•	•	•	•	•	31	
	744.	South	33	•	•	•	•	•	•	39	
W	758.	,,	39							41	

This last specimen differs by having very short, moderately broad, medullary rays and pores in irregular patches of soft texture; it may possibly be A. Lakoocha.

W. 1208. South Kanara (saplings.)

87

88

86

A. incisa, Linn.

me The bread fruit tree of the South Sea Islands; cultivated in South India, Ceylon, and Burma.

A. integrifolia, Linn.

THE JACK FRUIT TREE.

Vern.—Kanthal, kathal, Hind., Beng.; Kantar, Sonthal, Poros, Kol; Panasa, Uriya, Tel.; Phanás, Mar., Bom.; Pilla, Tam.; Halsu, hebhelsu, halsina, Kan.; Teprong, Garo; Peingnai, Burm.; Cos, Cingh.

A large tree. cultivated throughout India, except in the northernmost part. Wild in the mountain forests of the Western Ghats, ascending to 4,000 feet. (Beddome.)

Heartwood yellow or rich yellowish-brown, darkening on exposure, compact, even-grained, moderately hard, seasons well and takes a fine polish. Weight about 40 lbs. per cubic foot.

•		Timbers.	•	•	• [PART
		•	••			ARU
It is lar	gely used for	carpentry, boxes a k, turning and bro	nd furnitur	e, and is ex	ported	. NAF
			• •	lbs		_
£ 598.		erai (young tree)	•	38	1.	•.
E 2444. W 756.	Siliguri, Ben South Kanar		• •	41	• •	
	Tharrawadd			43	1.	
	Salem Collect			42	ì	
No. 16.		•		• 44	, † [•
		701				20
rtocarpus (•			U.v.	. Tami	5 9
Вом.	; Dháo, Kuma	heo, PB. ; Dahu, dha: UN ; Dephúl, dehua,	u, oarnai, iak Beng.; Dao	SONTHAL,	Kol.;	• •
Down	, chama, cham	un; Dephúl, dehua, ba, Ass.; Dawa, CA	CHAR; Barrá	, NEPAL; K	anma	
	laku-chamma, Cingh.	, nakka-renu, TE¶.	; Myouklouk	, BURM.; C	auna-	
		n the outer Hills o	f Kumaun.	Sikkim, Ea	stern	
Bengal, Bur	ma, and in th	e evergreen forest:	of the We	stern Ghât	s and	
Ceylon.	In		II ac at a			
Sapwood It sousons w	iarge, white	, soft, perishable, od polish. Weigh	rieartwoo	ou yellow,	nard.	
Used for	furniture and	canoes.	. 30 10 50 10	a. per cubit	. 1001.	-
				lbs.		
E 2445.	Siliguri, Ben Kamrúp, As	gai	• •	. « 48		
E 1402.			• •	· . 36 · . 43	1	
W 740.			•	• • 47	1	
B 810.	Rangoon Di	vision, Burma		30		
B 2553.	Burma (1862	?) 	•	. 30		
No. 07.	Patta-del	ction (marked Atr	ocarpus, sp.			•
nobilis, T		•	•	• • 34		00
	Del, aludel, Ci				ı	_
A large	ree of Ceylor	1.				
Heartwo	od shining, m	oderately hard;	pores filled v	vith a white	e sub-	
	g the wood an canoes and fi	elegant mottled a	ppearance.			
Usea for	Canoes and n	ui iii tui e.		lbs.	. [
No. 2.	Ceylon Colle	ction marked A, pı	bescens	51		
No. 21.	•""	"	• • • • • • • • • • • • • • • • • • • •	40		
				•		
	A	RUNDINARI	A		ı	
rundinaria	falcata M	es, Gramineæ.			1	
	ALAYAN BAMI		•			91
Vern	-Nirgal, nigál.	ringal, nagre, narr	i, garri. gero.	HIND :: Stiá	g. gur-	
wa.	spikso, pitso, l	KUNAWAR; Kwei, I ongnok, LEPCHA.	IBET; Pron	g, ŊW. P.	; Titi	
Met wit	h from the	Ravi to Bhutan,	above 4.500	feet in al	ltitude	
in the west	ern, but des	cending nearly to	the plains	in the Ea	stern,	
Himalaya.				_	1	
	to 10 feet	high, strong, and	nual; used	tor roofing	g and	
baskets.	Wl.,			•	13	r
Н 122	K IIIII.					
H 132. E 1339.		•		•	•	

Economic Products of India.

TALAN- TIA.						
92	Arundihariæ Griffithiana, Menro Met with in the Rhásia Hills.					
٠.	Stems 4 to 6 feet high; internodes woolly, sometimes prickly.					
93	A. Hookeriana, Munro. Vern. Praong, prong, Lepcha; Singhan, Nepal. A bamboo, with stems 12 to 15 feet in height, common about Dumsong. Has handsome glaucous green stems the nodes marked by a bluish ring. The leaves have conspicuous transverse veins.					
94	A. intermedia, Munro. Met with in Sikkim, from 7,000 to 8,000 feet; stem from about 6 to 8 feet.					
95	Å. kliasiana, Munro. Vern.—Namlang, Khásia. Met with in Khásia Hills; stem from 8 to 12 feet.					
96	A. racemosa, Munro. Vern.—Pummoon, Lepcha; Pat-hoo, maling, Nepal; Mvooma, Bhutia. A bamboo, 2 to 4 feet high, with bluish rough interpredes, occurring in Sikkim and Nepal, above 6,000 feet. It is extensively used for making mats, roofing, &c.					
	E. 1351 Darjeeling.					
97	A. Wightiana, Nus.					
	ATALANTIA.					
98	Atalantia missionis, Oliv, Rutacer. Syn.—Limonia missionsis, Wall. Vern.—Pambūrū, Cingh. A small tree of South India and Ceylon. Wood yellowish-white, sometimes variegated, moderately hard, closegrained. Annual rings marked by a white line and a belt of more numerous pores Weight 48 lbs per cubic foot. Used for furniturd and cabinet work.					
	No 66 Ceylon Collection					
99	A. monophy!!a, Correa. Vern Nargum, URIYA; Arawi nim, Tel.; Katyalu, TAM.; Makhur, MAR. A large shrub or small tree of East Bengal, South India and Ceylon. Wood collows users band and close grayed. Weight 65 lbs. nor asked					
•	Wood yellow, very hard and close-grained. Weight 65 lbs. per cubic foot. Numerous white concentric lines at varying distances. Recommended by Kurz as a substitute for box-wood. 10. Salem Collection 65 C. 3515. Khurdha forests, Frissa.					

Timbers.	PART Y
•	BACCA REA.
AUCUBA.	•
Aucuba himalaica, Hook. f. and Th., CORNACEE. Vern.—Phul amphi, NEPAL; Singna, tapathyer, LEPCHA. A small tree of Sikkim Himalaus, between 5 000 and 0 000 feet	100
A small tree of Sikkim Himalaya, between 5,000 and 0,000 feet. Wood black when fresh cut, becoming lighter-coloured on exposure, hard and close-grained. Weight 55 lbs. per cubic foot.	
• E 2383. Rangbúl Forest, Darjeeling, 7,000 feet	
AVERRHOA.	
Averrhoa Carambola, Linn., Geraniaceæ.	ioi .
Vern.—Karmal, Hind.; Kámrángú, Beng.; Soungyah, Burm.; Kha- maraka, karamara, Bom.; Khamrak, Dec.; Tamarta, Tam; Karo- monga, Tel.	
A small tree with sensitive leaflets, 15 to 20 feet in height; a native of Ceylon and the Moluccas, but now extensively cultivated in India for its apples, which when stewed are very palateable. Wood light red, hard, close-grained. Weight about 40 lbs. Home says it is used in the Sunderbans for building purposes and furniture.	-
AVICENNIA.	-
Avicennia officinalis, Linn., Verbenacez.	*02
Vern.—Bani, BENG.; Mada, nalla mada, Tel.; Thamé, BURM. A shrub or small tree, met with in the Salt marshes, coast and tidal forests of India, Burma, and the Andaman Islands. Wood grey, with a darker heartwood, hard, heavy, consisting of numerous, narrow, well marked, concentric layers. Weight 58 lbs. per cubic foot. It is very brittle: used in India only for firewood. Major Ford says	102
it is used for mills for husking paddy, rice-pounders, and oil-mills in the Andamans.	
E 398. Sundarbans	
•	
· BACCAUREA.	
Baccaurea sapida, Mull. Arg., Euphorbiace E. Syn.—Pierardia sapida, Roxb. (Fl. Ind., 11, 254.) Vern.—Lutco, Hind.; Lutqua, Chinese Kala bogoti, Nepal; Latechu, Ass.; Koli, kuki, Kan.; Kanaso, Buri , Kanaisu, Maghi.; Sumbling, Lepcha.	103
A small or moderate sized evergree, tree, met with in Bergal, Burma and the Andaman Islands. Wood greyish-brown, soft, liable to split badly. Weight about 42 lbs. per cubic foot.	>
29 . •	`. ·

Economic Products of India.

MBUSA.	
TO4	B 2552. Burma (1862)
••	Wood yellowish-white, moderately hard, no heartwood, no annual rings. Weight 48 lbs. per cubic foot.
~	It is used for walking-sucks and for fuel. P. 450. Ajmere
	BALSAMODENDRON.
, 105	Baisamodendron Mukul, Hook., Burserace. Gum Gugal. Vern.—Guggul, mukul, ranghan túrb, Beng., Hind., and Dec.; Gúgal, Sindi. A small tree of the arid zones of Sind, Kattiawar, Rajputana, and Khandesh. Wood soft, white. Weight 20 lbs. per cubic foot.
	Not used. P 448. Ajmere
	BAMBUSA.
106	Bambusa affinis, Munro, Graminez.
	Bamboo. Vern.—Theeshe, thaikwa, Burm. Found-rul Artaban and said by Munro to be scandent, by Kurz to be small and tulk d, and 15 to 20 feet high.
107	B. arundinacea, Retz. (Roxb., Fl. Ind., ii, 191.) BAMBOO. Vern.—Magar, núl, Fr.: Bans, kattang, Hind.; Katanga, Kol.; Wahkanteh, Garo; Bariak, Chittagong; Mandgay, Bom.; Kati wadúr, Gond; Mangil, Tam.; Valvu, Tel.; Bidungulu, Kan.; Wa-nah, Mach; Kya-kat-wa, Burm. Inhábits Central and South Inta, Burma, Dehra Dun, Toungoo, and
	South Kanara.

. Tinbers.	PART VI
Stems 70 to 90 feet, spinescent. Leaves small. This bamboo is of good quality and strong, and is used for all purposes. O 1337. Dehra Dun.	BAMBUS
B 1319. Burma. W 1330. South Kanara.	
Bambusa Balcooa, Roxb. Vern.—Balku, Beng.; Betwa, Cachar; Bara baluka, Ass. A bamboo, with stems often 50 to 70 feet in height. This is the best Bengal species for building and scaffolding. (Gamble.) Common in Bengal and Assam. E 1332, Sunderbuns.	108 -
B. Brandisii, Munro. Syn.—Dendrocalamus Brandisii (Kurs, ii, 560.) Vern.—Ora, Beng.; Turgu-wah, Magi; Keyllowa, wabo, Burm. A gigantic species met with in Chittagong and Burma up to 4,000 feet. Stems often becoming 126 feet high and 30 inches in circumference. E 3428. Chittagong Hill Tracts. B 1313, 1312. Toungoo. Chittagong Hill Tracts.	109 *
B. Falconeri, Munro (Brandis, 568.) Vern.—Chye, kag. • Found in the North-West Himalaya.	110
B. Khasiana, Munro. Vern.—Tumar, Khasia. Met with in the Khasia Hills.	
B. nutans, Wall. Vern.—Mahlhans, Nepal; Mahlu, Lepcha; Jinshing, Bhutea; Bidhüli, mukial, Ass.; Pichle, Sylhet. A most beautiful species, largely planted near villages in Nepal, Sikkim, Khasia Hills and Bhutan. O. 1338, Dehra Dun?	112
B. orientalis, Nees. (Beddome, t, ccxxxi; South India.)	113
B. pallida, Munro. Vern.—Burwal, bakhal, CACHAR; Usken, KHASIG. A bamboo with stems about 50 feet; met with in Eastern Bengal and Assam.	114
B. polymorpha, Munro (Kurz, ii, 553.) Vern.—Kya-thoungwa, Burm. A Burmese bamboo. B. 1316, Toungoo.	115
B. spinosa, Roxb. (Pl. Ind., ii, 198.) Vern.—Behor, Beng; Koto, Ass.; Bhkoit, Cachar; Yakatwa, Burm. (not given by Kurz, or rather unjed with B. arundinacea, probably; a view in which Brandis concurs). A native of Bengal, Assam, and Jarma.	.fte
31	

BASSIA. Bambusa teres, Ham. A native of Bengal and Assam. 178 B. Tulda, Roxb. (Fl. Ind., ii, 193.) Vern.—Peka, HIND.; Tulda, jowa, mitenga, matela, BENG.; Pepcsiman, Kol.; Makor, Mal. (S. P.); Wahghi, GARO; Madaewah, MAGH.; Theit sa, thoukwa, BURM. The common Bamboo of Bengal and Burma. The wood is strong and the halms are used for roofing and scaffolding, mats, and innumerable other purposes. E. 1333. Sundarbans. E. 1328. Chittagong. B. 1321, Tounguo. IIO B. vulgaris, Wendl. Vern.—Kulluk, vansa kalaka, Bom.; Una, Cingh. Stems 20 to 50 feet, yellow or striped yellow and green. The leaves have well-marked transverse veins. Cultivated in India. BARRINGTONIA. Barringtonia acutangula, Gaerin., Myriace E. 120 Vern.—Ijal, samundar phúl, panniári, ingar, HIND.; Ijar, MONGHYR; Hijal, samundar, BENG.; Sapiung, KOL.; Kinjole, Kinjara, URIYA; Hendol, Ass.; Kanapa, batta, kurpa, kadamic, IEL.; Piwar, MAR.; Kyaitha, kyainee, BURM. A moderate sized evergreen tree, met with in the Sub-Himalayan tract from the Jumna eastwards, in Oudh, Bengal, Central and South The and Burma. Wood white, shining, warps in seasoning, moderately hard, evengrained, said to be durable. The radial section is beautifully mottled with the medullary rays, which appear as irregular plates. Weight 46 lbs. per cubic foot. It is used for boat-building, well-work, carts, rice-pounders and by cabinet-makers. Beddome says the wood turns black when buried in mud. lbs. C 1132. Ahiri Reserve, Central Provinces. B 814. Burma 46 C 3470. Saranda Forests, Chota Nagpore. I2I B. racemosa, Blume. Verh.—Samudra, cuddapah, TAM., MAL.; Kyai-beng, Burm. man Islands and Caylon.

A moderate sized evergreen tree found in the Western Chast, Anda-

Wood white, very soft, porous. Weight 27 lbs. per cubic foot.

Skinner, No. 21, gives 53 lbs.

He says it is used for house and cart building, and that it has been trice roilway sleepers.

ths. B 1993. Andaman Islands (Kurs, 1866) ... 27

BASSIA.

Bassia butyracea, Roxi (Fl. Ind., 11, 527.) SAPOTACEE.
Vern.—Chiùra, chaiùrd; phulel, Kumaun; Cheuli, Oudh; Phalwara,

HIND.; Chari, NEPAL; 'el, yel, pote, LEPCHA.

A-deciduous tree of the Sub-Limalayan tract from Kumaun to Bhutan, between 1,500 and 4,500 feet.

Limbers.	[PART
	BAUH
Wood light-brown, hard. Annual rings marked by a dark line. Weight 52 lbs. per cubic foot.	
E 622. Bamunpokri, Darjeeling 52	•
Vern.—Mahwa, mowa, mahúa, HIND.; Mahwa, mahúla, maal, BENG.; Moha, URIYA; Mandukum, Kot.; Mohula Bhumij and Mal. (S. P.); Matkom, Sonthal; Illupi, elupa, kat illipi, Tam.; ppi, yeppa, Tel.; Mahu, Baigas; Irúp, irrip, irhu, Gond; Mohu, Kurku; Moho, Mar.; Honge, Kan.; Poonam, Mal.; Quindah (the oil.) A large deciduous tree, indigenous in the forests of Central India; cultivated and self-sown throughout India. Sapwood large; heartwood reddish-brown, from hard to very hard. Annual rings indistinct. The wood is not much used, as the tree is so prized for its flowers that it is rarely felled; it has been tried for railway sleepers in the Central Provinces, and Beddome says it is used for the naves of wheels, for door and window frames and panels, for furniture and country vessels. Mr. C. F. Manson describes this as being the most generally useful tree of the Sonthal Pergunnahs.	123
O 266. Garhwal (1868)	124
Basket and wicker-work, list of woody plants used for.	
BAUHINIA.	125
Bauhinia anguina, Roxb., Leguminosæ. The Snake Climber.	
Vern.—Nag-pút, Syllift; Naiwilli, Nepal; Inatungrungrik. L. A curious conduplicately bent climber of the orth and East Bengal, Chittagong, Martaban and South India. Its bark is used in rope-making, and the wood is soft and porous. The stems are bent generally in alternate folds and with a straight thick margin. E 482. Darjeeling Terai.	
C 22	•

С

UHINIA.

126

Bauhinia macrostachya, Wall.

Vern. --- Gunda-gilla.

An extensive climber, found in the forests of Sylhet and Assam. The bark yields a strong fibre.

127

B. malabarica, Roxb., (Fl. Ind., ii, 321.)

Vern.—Amli, amlosa, Hind; Karmai, Beng.; Gourubati, Uriya; Laba, Kol; Amli, taki, Nepal; Kattra, Ass.; Cheppura, basavana pada, Kan; Amli, Mar.; Kundapula, dhondel, kangali, Gond; Ambotha, chapa, Kurku; Pulla, dondur, puli shinta, pulhari, Tel.; Apta, Berar; Bwaygyin, Burm.

A moderate sized deciduous tree, met with in the Sub-Himalayan tract

from the Ganges to Assam, in Bengal, Burma, and South India.

Wood light-reddish brown, with irregular masses of black or purplish wood near the centre; moderately hard. Numerous narrow wavy, white, concentric bands of softer tissue alternate with bands of harder and red-coloured wood of equal width, in which the numerous, fine, uniform and equidistant medullary rays are distinctly visible. Weight about 48 lbs. per cubic foot.

It is rarely used.

		٠ ٠ ٠			105.
C	1137.	Ahiri Reserve, Central Provinces	•		•••
C	2817.	Melghat, Berar (sapwood) .	•	•	44
С	821.	Bairagarh Reserve, Berar .	. •	•	47
E	590.	Khookloong Forest, Darjeeling Ter	ai	•	51
E	235.	Bamunpokri, Darjeeling Terai .	•	•	48
В	3203.	Burma (1862)	•	•	•••

128

£

B. purpurea, Linn., (Roxb., Fl. Ind., ii, 320.)

Vern.—Koiral, karár, karalli, gray, PB.; Koliár, kaniár, kandan, khairwal, kwillar, koilari, sona, HIND.; Khwairalo, NEPAL; Kachik, LEPCHA; Deva, kanchan, rakta kancha, koiral, BENG; Buruju, KOL.; Koinar, LOHARDUGGA; Singyara, SONTHAL; Kundrow, MAL (S.P.); Kodwari, GOND; Koliari, KURKU; Atmatti, MAR; Kanchan, TEL.; Pedda aré, mandareh, TAM; Sarúl, kanchivúla, KAN; Mahalay kani, BURM.

A moderate sized deciduous tree of the Sub-Himalayan tract from the Indus eastward, Central and South India and of Burma.

Wood pinkish-white, turning dark-brown on exposure, moderately hard Weight 40 to 50 lbs. per cubic foot.

Used for agricultural implements and in construction,

P 153.	Sainj, Giri Valley, 3,000 feet .	•	. 42
O 229.	Garhwal (1868)	•	55 46
O 230.	,, ,,	•	. ₹46
C 822.	Bairagarh Reserve, Berar .	•	. 50
C 2792.	Melghat, Berar (sapwood)	•	. 36
E 585.	Khooklong Forest, Darjeeling Terai	•	. 50

129

cemosa, Lam.

Vern.— A PARVIFLORA Vahl. (Roxb., Fl. Ind., 11, 323.)

Vern.— A Scindra, taur, PB.; Kachnál, gáriál, thaur, ashta, makkúna, maula, scindra, taur, PB.; Kachnál, gáriál, thaur, ashta, makkúna, Yhinja, A]. Tara, HIND.; Dhondri, dhundera, astra, bosha, Gond; Shinja, A]. Re; Ari, arro, TEL; Ati, archi, arcka, TAM.; Apta, seyára, MAR. Sanraj, Beng.; Kaimu, Kol; Gatonli, Oraon; Katmanli, Kharkic, and Lohardugga; Beriju, Sonthal; Ambru, MAL. (S. P.); Am. (Jota, Uriya; Aupta, Kan.; Hpalan, Burm.; Amba bhósa, Bhil; Bossar, JKurku.

A small deciduous tree, maeit with in the Sub-Himalayan tract from the Ravi eastwards, ascending thio 5,000 feet; in Oudh, Bengal, Burma, and Central and South India. PARVIFLORA Vahl. (Roxb., Fl. Ind., 11, 323.)

	BAUHIN
Wood light brown boul swith image large shound masses of darker	′ •
Wood light-brown, hard, with irregularly shaped masses of darker- coloured and harder wood near the centre. Weight 40 to 56 lbs. per	
cubic foot.	•
Good, but not used.	
lbs]
P 3216. Nagpahar, Ajmere	
. O 335. Gorakhpur (1868) • 47	
C 200. Mandla, Central Provinces (1869) 50	
C 1170. Ahiri Reserve, Central Provinces 44	
C 2770. Melghat, Berar (sapwood) 41	
Bauhinia retusa, Ham. (Roxb., Fl. Ind., A, 322.)	T20
	130
Vern.—Kural, Pb.; Kandla, kanalla, kuayral, gwayral, kanlao, semla, Hind.; Laba, Kol.; Twar, Ornon; Katman, Kharwar; Thaur, Gond; Kaimu, Lohardugga; Nirpa, Gond, Tel.; Tewar, Palamow.	•
A moderate sized deciduous tree of the North-West Himalaya from	[
the Beas eastwards, ascending to 4,500 feet, and of Central India.	
Wood reddish-white, with irregularly shaped, darker masses near the centre, hard. Weight 58 lbs. per cubic foot.	
Not used. 1bs.	
O 532. Dehra Dun	
Č 1160. Ahiri Reserve, Central Provinces	
•	
B. tomentosa, Linn.	131
Vern.—Kachnar, HIND.; Kanchini, TAM.	
A shrub or small tree of South India.	
From the bark a fibre is prepared:	•
B. Vahlii, W. & A.	132
Syn.—B. RACEMOSA, Vahl. (Roxb., Fl. Ind., ii, 325.)	
Vern Taur, PB.; Malghan, maljan, malu, maurain, jallaur, HIND.;	
Sihar, mahalan, maúl, C. P.; Borla, NEPAL; Chehur, BENG.; Jom,	
Vern.—Taur, Pb.; Malghan, maljan, malu, maurain, jallaur, Hind.; Sihar, mahalan, maul, C. P.; Borla, Nepal; Chehur, Beng.; Jom, Sonthal; Lama, rung, Kol.; Maulan, Kharwar; Sungung rik, Lepcha; Shioli, Uriya; Paur-bela, Gond; Adda, Tam.; Chamboli,	
DEC.	
This is one of the most extensive, as it is the most abundant and most	
useful, of Indian climbers. It is found all along the Lower Himalayas from the Chenab eastward, in North and Central India, and Tenasserim.	
The wood is porous, in broad, irregularly broken concentric layers.	
alternating with red, juicy, bark-like tissue; the pith is cross-shaped.	
The foliage is very dense and the stems do great damage to the trees they	
climb over; it is very prevalent in sal forests, and in many provinces is	
being systematically cut out. Its uses are, perhaps, more numerous than those of any other forest	
plant; the strong cordage prepared from its bank is not the cast impor-	
tant. In the Kew Report for 1881, it is stated that the leaves of this plant	
and not those of Cochlospermum gossypium are these used in the con-	
struction of the crude leaf-bellows in Sikkim. Yey are sewn together and used as plates, cups, rough table-cloths, um las and rain-caps; its	
and used as plates, cups, rough table-cloths, uniquellas and rain-caps; its	1
pod is roasted and the seeds eaten.	[
P. 108. Sutlej. O. 544. Dehra Dun.	ļ
E. 474: Double Tour	
E. 474. Darjeeling Terai.	
, Ar	

BEILSCH-MIEDIA.

.I33

Bauhinia variegata, Linn. (Roxb., Fl. Ind., ii, 319).

Vern.—Kachnar, koliar, kural, padrian, khwairal, gurial, gwiar, barial, HIND.; Kurmang, MECHI; Singya, Kol.; Kundol, BHUMIJ; Yingya, SONTHAL; Taki, NEPAL; Rha, LEPCHA; Rakta kanchan, BENG.; Borara, URIYA; Segapu-munthari, TAM.; Kanchivala-do, KAN.; Bwaycheng, Busm.

A moderate sized deciduous tree found in the Sub-Himalayan tract from the Indus eastwards, and throughout the forests of India and Burma. Often planted for ornament.

Wood grey, moderately hard, with irregular masses of darker and harder wood in the centre. Weight 40 to 50 lbs.

Used for agricultural implements.

		•			ibs.
Р	1200.	Madhopur, Punjab			33
C	823.	Bairagarh Reserve, Berar			48
E	501.	Khooklong Forest, Darjeeling Te	rai		47
E	2351.	Bamunpokri " " "			39
		Bhajji, Punjab (3,000 feet).			J,

134

Beaumontia grandiflora, Wall., APOCYNACE E.

Syn.—Echites grandiflora, Roxb. (Fl. Ind., ii, 14).

Vern.—Barbari, NEPAL.

Is a large climber of East and North Bengal, with large showy lemonwhite flowers. It is found from Nepal eastward to Sikkim, Sylhet, and Chittagong.

A fibre is prepared from the young twigs.

REESHA.

I35

Beesha Rheedii, Kunth (Munro, 144; Beddome, ccxxxiv.) Gramine E. A kind of bamboo met with in Malabar and Cochin; stems 16 feet high.

136

B. stridula, Munro.

Vern. - Batta, CINGH.

Met with in Bombay and Ceylon; stems 6 to 18 feet.

I37

B Travancorica Beddome.

Vern.—Irul, TRAVANCORE.

Met with in the Hills of Tinnevelly and Travancore, 3,000 to 5,500 feet; stems 6 to 8 feet; densely gregarious.

BEILSCHMIEDIA.

138

Beilschmiedia Ro urghiana, Nees, Laurace E.

Syn.—LAURUS BILL CULARIS, Roxb. (Fl. Ind., ii, 311.)
Vern.—Konháiah, Ouch; Tarsing, Nepal; Kanyu, Lepcha; Tapchi,
GARO; Serai-guti, Aqi.; Shatoobeng, Burm.

An evergreen tree found in Eastern Himalaya up to 8,000 feet, in Eastern Bengal, Burma and the A aman Islands.

Timbers.	• • [PART VI
	-:	BERBERI
Wood white, moderately hard, even-grained; heartwood with regreen streaks. Annual rings marked by sharp lines. Weight abilist per cubic foot. It is used in Assam for boats; in Darjaeling for building, tea and other purposes.	oout 37	
E 1258. Tezpur, Assam		
E 1290: Vern. Dumbail, Cachar, weight 31 E 1292. Vern. Raun dolu ,, ,,	ıus.	•
BERBERIS.		,
Berberis angulosa, Wall., Berberider. Vern.—Chutra, Nepal. A large erect shrub of the inner ranges of Nepal and Sikkim, 11,000 feet.	above	139
Wood dark-grey or yellowish-brown, hard. Weight about 50 ll cubic foot. E 2862. Suburkum, Darjeeling, 11,000 feet.	bs. per	
B. aristata, DC. Syn.—B. ANGUSTIFOLIA, Roxb. (Fl. Ind., ii, 183.) Vern.—Súmlú. simlu, kasmal, chitra, Pb. Tsema, Bhutia; NEPAL; Chotra, HIND.	Chitra,	140
An erect spinous shrub of the outer Himalaya from the Su Bhutan; in the North-West Himalaya 6,000 feet to 10,000 feet; i jeeling above 10,000 feet; in the Western Ghâts at high elevations, Ceylon.	n Dar-	
Wood yellow, hard. Weight 52 lbs. per cubic foot. Used for fuel. lbs.		
H 80. Simla, 7,000 feet		
B. coriacea, n. sp., Brandis. Vern.—Kashmal, Simla. A large erect thorny shrub of the North-West Himalaya above feet; often forming alone or with other shrubs large extents of e.g., in the valley south of Nagkanda near Simla. Wood yellow, moderately hard. Weight about 54.8s. per cubic lbs.	jungle,	141
H 48. Nagkanda, Simla, 9,000 feet		
H 3043. " " 52 H 3038. Matiyana, Simla, 8,000 set	,	(

BIXA.

Seldom used except for firewood and charcoal, for which purposes it is very good. Experiments made by Mr. Whitty with several kinds of wood fuel for the Darjeeling-Himalayan Railway showed that this was the best for locomotive purposes.

E 678. Bamunpokri, Darjeeling Terai

52

віота.

Biota orientalis, Endl., CONIFERE.

THE ABOR VITE.

Syn.-Thuja orientalis, Linn.

Indigenous in Japan and China; cultivated in Darjeeling. Wood moderately hard, close-grained; heartwood dark-reddish-brown, the annual rings marked by darker colour.

E 3414.

BISCHOFFIA.

Bischoffia javanca, Bl.

Syn.—Andrachne trifoliata, Roxb. (Fl. Ind., iii, 728.)

Vern.—Kein, korsa, irum, HIND.; Kainjal, NEPAL; Sinong, LEPCHA Taisoh, urum, Mechi; Uruam, Ass.; Bolzuru, GARO; Joki, CACHAR Boke, BOM.; Thondi, TAM.; Govarnellu, HASSAN; Modagerri vembu; TINNEVELLY; Yagine (?) BURM.

A deciduous tree met with in Kumaun, Garhwal, Oudh, Gorakhpur, Bengal, South India and Burma.

Weight 47½ lbs. per cubic foot.

Wood red, rough, moderately hard, with a small darker-coloured heartwood.

In Assam it is esteemed one of the best timbers and used for bridges and other works of construction. Beddome says it is used by planters in the Nilgiris for building, and is sometimes called Red Cedar.

_		0 1 0 11					lbs.
O		Gonda, Oudh .	. •	•	•	•	44
E		Bamunpokri, Darjee	eling	Terai	•		53
E	1257.	Tezpur, Assam.		•	•		47
E	2191.	Nowgong, Assam		•	١.		46
E	2467.	Calcutta (sapwood)				. 3	ي ع6 م

BIXA.

152

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I5I

Bixa Orellana, Linn., BIXINEÆ.

RNOTTO DYE.

Vern.—Lairen, Watkana, Hind., Beng.; Jarat, Ass.; Jafra, Tel.; Kuragu-man sial, TAM.; Theedin, Burm.; Kuppa-mankala, rangamali; KAU.; sri, Kesari, Sendri, MAR., Bom.

A graceful shrub, when and some white or pinkish flowers and echinate red capsules; originally a ative of America, now largely cultivated in India for the red or orange are obtained from the pulp which surrounds the seed.

Wood pinkish-white, soft, evel grained. E 3401. Jalpiguri, Bengal.

Timbers.	PART '
	BOMB.
Boats, Canoes, and Ship-building—Woods used for. See Appen-	
BŒHMERIA.	. •
Bœhmeria platyphylla, Don., Urticacez.	153
Vern.—Gargela, HIND.; Kamli, NEPAL. A large shrub or mall tree met with in the outer Himalaya up to 7,000 feet, in the Khsia Hills, East Bengal, South India, and Ceylon. Wood moderately hard, reddish-brown with occasional concentric bands of darker and lighter colour.	
E 3317. Darjeeling, 6,500 feet.	••
B. rugulosa, Wedd. Vern.—Geti, gainti, HIND.; Dar, NEPAL; Sedeng, LEPCHA. A small tree met with in Garhwal, Kumaun, Nepal, Sikkim and	154
Bhntan. Wood red, moderately hard, even-grained, durable, seasons well. A nice wood, easy to cut and work. Weight 41 lbs. per cubic foot. It is used in Kumaun and Nepal for making bowls; in Sikkim for milk-pails, churns and other dairy utensils. The Lepchas make cups, bowls and tobacco-boxes of it.	
O 324. Garhwal (1868)	
BOMBAX.	•
Bombax insigne, Wall., MALVACEE. Vern.—Semul, thula, BENG.; Saitu, MAGH. A large tree, trunk without prickles, met with in Chittagong, Burma, and the Andaman Islands.	1 55
Structure similar to that of B. malabaricum , but pores smaller and more scanty. The wood is also more durable than that of B. malabaricum ; the specimen from the Andamans had been 12 years in Calcutta in the rough, and was only slightly discoloured on being cut up. 1bs.	
B 2215. Andaman Island (Major Ford, 1866) 31	
B. malabaricum, DC.	156
SILK COTTON TREE.	
Syn.—B. HEPTAPHYLLUM, Cav. (Roxb., Fl. Ind., iii, [1]) Vetn.—Simbal, Hazara; Shirlan, Sutlej; Semulahembal, semur, pagun, somr, Hind., Beng.; Dél, Kól.; Edel, Sontpal; Simur, Mal. (S. P.); Bouro, Simuri, Uriya; Bolchá, panchu, G. di; Sunglá, Lepcha; Búrga, búrgá, buraga, Tel.; Illavam, pulá, T. H.; Búrga, Kan.; Katu-imbúl, Cingh.; Wallaiki, Gond; Katseori, Lefil; Lapaing, Magh.; Letpan, Burm.	•
A very large deciduous tree, with branches in whorls, spreading horizontally, and stem with large buttresses at base: met with throughout India and Burma.	•.

RASSUS.

I57

The wood of old trees is very often a dull red colour. Wood white when fresh cut, turning dark on exposure; very soft, perishable; no heartwood; no annual rings. It is not durable, except under water when it lasts tolerably well.

It is used for planking, facking-cases and tea-boxes, toys, scabbards, fishing-floats, coffins, and the lining of wells. In Bengal and Burma the

trunk is often bollowed out to make canoes.

					•				DS.
P	466.	Ajmere .	•	•	•	•	•		
Ç	201.	Mandla, Cer	ntra l P	rovinc	es (18	71)			32
		Chanda	, ee	23	•	•			31
E	679.	Bamunpokr	i, Darj	eeling	Terai				23
E	2323.	»	,	,	,,				17
		Sibsagar, A	ssam		•				28
		Assam .	•	•					20
E	1961.	Chittagong					•		21
В	3117.	Burma (186	2) .		•				24
N	0. 14.	Salem Collec	ction						20
E	3606.	Sivoke Fore	sts, Da	arjeelir	ng Ter	ai.		•	
	2626	Darieeling '				_	_	_	10

BORASSUS.

Borassus flabelliformis, Linn., PALME.

THE PALMYRA PALM.

Vern.—Tál, tala, tar, Hind.; Tal, Beng.; Potu tadi (the male tree), Penti, tadi (the female), Tel.; Panam, pannie, Tam.; Pana, Mal.; Tali, tale, Kan.; Tal, Cingh.; Tad, Guz.; Htan, Burm.

A tall palm with cylindrical stem, cultivated throughout tropical India, and beyond the tropics in Bengal, and the southern part of the North-West Provinces. The young stems are covered with dry leaves or the lower part of petioles, while the old stems are marked with the hard,

black, long and narrow scars of the fallen petioles.

Centre soft, but not often hollow. Fibro-vascular bundles black, crowded in the outer portion of the stem; if cut through at right angles they are oblong, generally with one large pore and a mass of cells at one end. Outer wood hard, heavy, and durable. The hollowed-out stems are used as water pipes; and, split in half, for gutters and open water channels. The hard outer wood is used for posts, rafters and other purposes.

							1	LDS.
С	ენი.	Guzerat, Bombay			•	•		42
	×8.	Jessore, Bengal		•	•	•	•	46
W*	707	South Kanara		•	•			51
W	869.	u u		•	•	•	•	•••
W	2922.	Marbar .		•	•	•	•	63
D	1475.	Salemas		•	•	•	•	25
В	563.	Prome, Brma		•	•	•		49
В	2458.	Myanoung, Purm	a	•	•	•		31
No.	15.	Salem Collection	•	•	•	•	•	72
No.	83.	Ceylon Collectic		•	•	•	•	65
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_		ΞΞ		_

BOSWEPLIA.

Boswellia serrata, Roxb., ex Colebr, in Asiat Res., ix, 379 t. 5., Bur-

158

INDIAN OLIBANUM TREE.

Syn.—B. THURIFERA, Roxb. ex-Flem.; B. THURIFERA, (Colebr., as in Gamble's Manual of Timbers); LIBANUS THURIFERA, Colebr.; B. GLABRA, Roxb.

Vern.—Salhe, salei, sálgá, HIND. Saleya, LOHARDUGGA; Salga, SON-THAL; Luban, salai, BENG.; Kungli, gúgúlu, kúndrikam morada, TAM.; Anduku, anduga, Gúgger, dúmsal, KUMAON; Salla, bor-salei, ganga, GOND; Parangi, Tel.; Chittu, KAN.; Salai, guggula, salaphali, BOM.

A moderate sized, often gregarious tree found in the intermediate, northern and southern dry zones, the Sub-Himalayan træct from the Sutlej to Nepal, and in the drier forests of Central and Southern India.

Wood rough, white when fresh cut, darkening on exposure, moderately hard. It is not durable, but it has been reported that five sleepers made of it and soaked for some time in a tank filled with the leaves of Bahera (Terminalia belerica) and water and put down in June 1876 on the Holkar and Neemuch State Railway are still (1881) perfectly sound and good. (Indore Forest Report, 1876-77, quoted in Indian Agriculturist of May 1878.)

It is used for fuel and for making charcoal, which in Nimar is used for iron smelting.

-				1046
P 3215.	Nagpahar, Ajmere	•	•	
C 1112.	Ahiri Reserve, Central Provinces			36
C 2780.	Melghât Forest, Berar			28
C 3680.	Palamow, Chutia Nagpore .			28

BOUEA.

Bouea burmanica, Griff., ANACARDIACEE.

Syn.—B. OPPOSITIFOLIA, Meissn.; (Kurs, i, 306); MANGIFERA OPPOSITIFOLIA, Roxb. (Fl. Ind., i, 640.)

Vern.—Meriam, mayan, Burm.

A moderate sized evergreen tree met with in Burma and the Andaman Islands.

Wood grey, hard, with a dark-reddish-brown heartwood. Weight 55 lbs. per cubic foot.

It is not specially used, but is said by Roxburnh to be very durable.

Boxwood, substitutes for. See Appendix under Tue

BRASSAIOPIS,

Brassaiopis mitis, C. B. Clarke, ARAMACEE.

Vern.—Moqchini, NEPAL; Suntong LEPCHA.

A small tree of Sikkim Himalaya above 5,000 feet; common at Darjeeling. 160

BRIEDE-LIA..

Wood soft, white, spongy. Weight 24 lbs. per cubic foot.

E 2382. Rangbúl Forest, Darjeeling, 7,000 feet .

24

161: Brassaiopis speciosa, Deene and Planch.

Syn.-B. FLORIBUNDA, Seem.

Vern.-c

A small free met with from Nepal to Assam and Chittagong. Wood white, soft resembling the preceding,

E 3409. Darjeeling, 6,000 to 7,000 feet.

BRIEDELIA.

162

Briedelia montana, Willd., Euphorbiace E.

Vern.—Kargnalia, khaja, geia, kusi, HIND; Geio, NEPAL; Kaisho, ASS Patenga, Tel.

A moderate sized deciduous tree met with in the Sub-Himalayan tract from the Jhelam eastwards, ascending to 4,000 feet, in Oudh and in Bengal.

Wood grey, beautifully mottled; annual rings distinctly marked by darker and firmer wood on the outside of each ring. Weight 46 to 59 (r) lbs per cubic foot.

It is very similar to that of **B. retusa**, and might be used for the same purposes.

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B. retusa, Spreng.

Syn.-B. CRENULATA, Roxb., and B. SPINOSA, Willd. (Roxb., Fl. Ind., iii, 734, 735.)

Vern. – Pathor, mark, Pb.; Khaja, kassi, gauli, Hind.; Kharaka, kaka, Kol; Karika, Bhumij; Kanj, Kaji, Kharwar; Kij, Monghyr; Kadurpala, gadruphala, Sonthal; Lamkana, Ajmere; Angnera, Banswara; Asana, Mar.; Geio, Nepal; Pengji, Leptha; Nanda, Rajbanshi; Katakuchi, Mechi; Kashi, Garo; Kamkúi, Chitta-Gong; Kasi, Uriya; Mulu-vengay, kamanji, Tam.; Koramau, dudi maddi, koramadi, duriamadi, Tel.; Kassei, Gond; Karka, Kurku; Günjan, kati ain, Mar., Bihl; Asuna, gojé, Kan.; Adamarathu, Tinnevelly; Tseichyee, Burm.; Katta kaala, Çingh.

A large deciduous tree, with thorns on the bark of young stems, found in the Sub-Himalayan tract, from the Chenab eastwards, ascending to 3,600 feet, in Oudh, Bengal, Central and South India, and in Burma.

Sapwood small; Keartwood grey to olive-brown, close-grained, durable, seasons well, and is moderately hard; the annual rings marked by concentric lines. It has a mottled grain and takes a beautiful polish.

It is used for cattle-yokes, agricultural implements, carts, and building. It stands work ader water.

· •						lbs.
P 461. Ajm. a O 259. Garhw (1868)						48
O 259. Garhw (1868)	•	•	•	•	•	45
O 3001. " (20,74)	•	•	•	•	•	43
O 1480. Kheri, Oud?	•	•	•			61
O 347. Gorakhpur (1808)	•	•				47
C 1174. Ahiri Reserve, Cur	tral P	rovino	es	•		55
C 840. Bairagarh Reserve	Bera	ır		•		63
C 2765. Melghat, Berar						45

Timbers.	. • [PART VII
ibs.	•	BRUGUI- ERA.
E 645. Sepoydura, Darjeeling, 5,000 feet E 619. Bamunpokri, Darjeeling Terai	•	16 4
Briedelia stipularis, Bl. Syn.—B. Scandens, Roxb. (Fl. Ind. iii, 736. Vern.—Gourkssi, Uriva. Madlatah, undergupa, Oudh; Lilima, Dunkibura, Tel.; Kihur, Kohi, Ass. Harinhara, Beng.; Sipyin, Burm. A large straggling shrub, met with in the Sub-Himalayan trathe Jumna to Sarba, ascending to altitude 2,000 feet; abundant Oudh forests, also in Bengal, Burma, South India, the Malayan Pend Coylers.	inma-no- ct from	₩ Massell
and Ceylon. Wood greyish-brown, moderately hard. It is used for fuel in the Sunderbans. C. 3503. Khurdha forests, Orissa.		-6-1
B. tomentosa, Bl. Syn.—B. LANCEGFOLIA, Roxb. (Fl. Ind., iii, 737.) Vern.—Sibri, Nepal; Mantet, Lepcha; Sirai, mindri, Beng. A small evergreen tree met with in North-East Himalaya, as to 2.000 feet, in Eastern Bengal and in Burma. Wood light-olive-brown, hard, close-grained. Weight 64 lbs. p foot.		165
E 1397. Chittagong		
BROUSSONETIA.		
Broussonetia papyrifera, Vent., URTICACEE. Vern.—Ma-laing, Burm.; Aka kowko, kename kowko, Japan. A small tree, said to be wild in the Martaban hills. Wood light-coloured, even-grained, not hard and not heavy. (Specimens wanted.)		166
BRUGUIERA,		
Bruguiera gymnorhiza, Lam., Rhizophoreæ. Syn.—B. Rheedii, Bl., (Beddome, c.); Rhizophora Gymnorhi. (Fl. Ind., ii, 460.) Vern.—Kakra, kankra, Beng.; Byoo-bo, Burja. A small evergreen tree of the shores and treal creeks of India, and the Andaman Islands. Heartwood small, red, extremely had. Weight 54 lbs. per cult is used for firewood, house-pasts, planks, and articles of furniture. E 412. Sundarbans	Burma, bic foot. of native	1.

3UDDLEIA.

168

B 2217 (Are probably species of this genus. They were obtained from the Andaman Islands under the name of Garcinia and Mallotus. B 29222

BUCHANANIA.

Buchanania latifolia, Roxb., Anacardiace E.

Vern.—Chirongi (the fruit), Beng.; Chirauli (the fruit) Chirongi, PB.; Pial, payala muria, ki bhilawa, Garhwal; Piar, paira, pirrah, Oudh; Tarum, Kól.; Pial, Bhumij; Peea Kharwar; Paròb, Sonthal; Charu, Uriy:; Achar, char, chirongi (the fruit), C. P.; Saraka, herka, Gond; Taro, Kurku; Chirwari, Hyderabad; Mowdo, or Katimango-marum Kat, mad, aima, Tam.; Chara, chinna moral, morli, Tel.; Nuckul, murkalu, Kan.; Sir, Bhil.; Piyal, charoli, Bom.; lonepho, lunbo, lamboben, Burm.

A tree, leaffess only for a very short time; found in the Sub-Himalayan tract from the Sutlej eastwards, ascending to 3,000 feet; throughout India and Burma.

Wood greyish-brown, moderately hard with a small dark-coloured heartwood. It seasons well and is fairly durable if kept dry. Weight 30 to 36 lbs. per cubic foot.

It is used for boxes, bedsteads, bullock-yokes, doors, window frames, tables and the like.

_		C 1 1 (0 co)						lbs.
		Garhwal (1868)	•	•		•	•	35
C 11	124.	Ahiri Reserve, Co	entral P	rovino	cès			20
C 27	751.	Moharli "	,,	99				36
C 27	763.	Melghát, Berar.		•				
		Gumsúr, Madras					_	32
C 35	32.	Khurdha Forest.	Orissa			-	•	24

BUCKLANDIA.

169 Bucklandia populnea, R. Br., HAMAMELIDEE.

Vern.—Pipli, NEPAL; Singliang, LEPCHA; Dingdah, KHASIA.

A large evergreen tree met with in the Eastern Himalaya, Khásia Hills and hills of Martaban, from 3,000 to 8,000 feet.

Wood greyish-brown, rough, moderately hard, close-grained, durable.

Is very much used in Darjeeling for planking and door and window frames, and is in great demand.

		_			_	#	lbs.
E 699.	Sepoydura	Forest,	Darjeeling,	5,500	feet		4 I
E 2372.	Rangbul	**		7,000		•	49
E 2,273.	,, ,,	,,	>>	99	. ,,		46
E 3673.	Darjeeling			6,500	,,		27

BUDDLEIA.

Buddleia asiatica, Lour., Loganiace E.

Ł

Syn.—B. NEEMDA Poxb. (Fl. Ind., i, 396.)
Vern.—Bhati, dhan shiintra, Kumaun; Bana, Simla; Newarpati,
NEPAL; Pondam, LEPCHA; Nimda, budbhola, Chittagong;
Kyoungmce koo, Burm

A large evergreen shrub of the Sub-Himalayan tract from the Indus eastwards, ascending to 4,000 feet, Bengal, Burma, South India; chiefly found in second growth forests, deserted village sites and savannahs.

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Timbers.	· · · · · · · · · · · · · · · · · · ·	PART V
	• 1.	BUTEA.
Wood grey, moderately hard. Weight 44.	lbs, per cubic foot	•
	lbs.	•
H. 110. Sutlej Valley, Simla, 400 feet	44	•
Buddleia Colvillei, Hook. f. and Th. • Vern.—Puri singbatti, NEPAL; pya-shing, I A small tree of the Eastern Himalaya, from Wood reddish-brown, soft.	m 9,000 to 12,000 feet.	
E 2393. Tonglo, Darjeeling, 10,000	feet	
B. paniculata, Wall.		17ž
Syn.—B. CRISPA, Benth. Vern.—Spera wuna, Afg; Dholtu, ghuu HIMALAYA; Sinna, Nepal. A large evergreen shrub of the Himalaya		•
ascending to 7,000 feet. Wood white, moderately hard, close-gracubic foot.	• •	
H 158. Simla, 7,000 feet H 2882. Nagkanda, Simla, 7,000 feet	lbs. 41	
BURSERA. Linn		
Bursera serrata, Colebr., Burseraceæ. Vern.—Murtenga, Ass.; Thadee-ben, Burn A large evergreen tree of the Eastern mo Chittagong and Burma. Wood hard, sapwood light-brown, hear Weight 46 lbs. per cubic foot. Good for furniture.	oist zone, of Bengal, Assam,	173
B 313. Burma (1867)	1bs	
. BUTEA.		
Butea frondosa, Roxb., Leguminosæ.		174
Vern.—Dhak, palas, kakria, kankrei, chich KHAND; Chiùla, puroha, C. P.; Palas, I SONTHAL; Pharsa, BAIGAS; Paras, fara NEPAL; Lahokung, LEPCHA; Palashu, N GOND; KURKU; Porasan, TAM.; Modu thoras, KAN.; Paras, MAR.; Gasskeala BURM.	BENGA; Murut, Kol.; Murup, 28. Behar: Palasi, bulyettra,	
A moderate sized deciduous tree, found the extending in the North-West Himalaya as far Wood dirty white, soft, not durable; no and It is said to be better under water, and so for well-curbs and piles.	as the Jhelum. n of rings. fused in North-West India	
The charcoal from this plant was introduced in 1874, for bleaching the morphia manufactur. Ghazipur. It was selected after a series of exforms of charcoal, its great advantage being	ed at the Opium Factory, periments with the different	•

BUXUS.

from saline matter; it can on this account be employed without any previous purification. Wood charcoal possesses feebler decolourizing powers than animal, but it had to be resorted to on account of the native prejudices against the use of bone charcoal. (Dr. Warden, Professor of Chemistry, Calcutta Medical College.)

_			lbs.	
O _C 637.	Garhwal wood	•	•••	
	Ahiri Reserve, Central Provinces .		•••	
C 2759.	Moharli Re erve, Central Provinces		36 .	
E 674.	Rakti Forest Darjeeling Terai .		31 .	
E 2345.	Sivoke "		40	

175

Butea superba, Roxb.

Vern.—Badúri, Singrampur; Chihúnt, Monghyr; Palasí, palasavela, Bom.; Yél paras, Mar.; Tige motku, Tel.; Samur, Gond; Tunang, Kurku; Pounkway, Burm.

• An extensive climber, scarcely differing from the preceding except in habit. Found in the forests of the Konkan, Bengal, Orissa and Burma.

BUXUS.

176

Buxus sempervirens, Linn., Euphorbiace E.

THE BOXWOOD TREE.

Syn .- WALLICHIANA, Baillon.

Vern.—Shanda laghúne, Afg.; Chikri, Kashmir; Papri, papar, paprang, shamshód, shumaj, Ps.

An evergreen shrub or small tree met with in the Suliman and Salt Ranges, North-West Himalaya, between 4,000 and 8,000 feet, in Bhutan about 6,000 to 7,000 feet; but scattered in different parts of the Himalaya, chiefly on a calcareous soil and often in remote localities.

Wood yellowish-white, hard, smooth, very close and even-grained. Annual rings distinctly marked by a narrow line without pores. Weight

55 to 65 lbs. per cubic foot.

It is estimated that the cost per cubic foot of boxwood delivered at Saharanpur from the Kelso forest would be Re. 1-8; its further cost by rail from Saharanpur to Bombay would be at least Re. 1-8 or total Rs. 3 per cubic foot. Considering 1 cubic foot as weighing 60 lbs., we have the cost per ton as Rs. 112, which could only be just covered by receipts if the very best description of wood were sent down. There is consequently little likelihood of much trade in boxwood from the Himalayan forests.

Rate of growth variable, generally very slow.

The uses of boxwood are well known. In Europe it is used for engraving, turning, carving and mathematical instruments. In the Himalaya small boxes to contain butter, honey, tinder, snuff, &c., are made of it, and it is carved into combs. The leaves are poisonous to cattle, only goats eat them sparingly with impunity; they are used in the south of France as manure for vineyards. The boxwood to be used for engraving requires very careful and lengthened seasoning; on this subject and on the other requisite characters of boxwood for commercial purposes, the following extract from a letter of Messrs. J. Gardner and Sons, of Liverpool, to the Inspector-General of Corests, dated April 3rd, 1877, will give information:—

"The value of boxwood at Bombay of suitable texture for the English market, of which latter we can judge from a few sample pieces, will depend principally upon the quality.

the quality.

"Wood from 2 to 4 inches diameter is required to be free from splits or cracks otherwise, however free from knots and straight and round it may be, the value

would not exceed £1 to £2 per ton, whilst if free from splits, round and straight not exceeding one knot per foot in length exceeding i knot and not exceeding 2 knots the value would probably (Lio per ton, be 2 knots

all knots or holes, counted as such, however small.

"Wood 4 inches and upwards in diameter is preferred with one split rather than sound or with more than one split; any splits after the first reducing the value on account of the additional waste in working the same.

Averaging per foot in length. ı knot. 2 knots. 3 knots. £ £ £

The value of round and straight (1 split) averaging.

4 to 5 inches diameter aging of inches and upwards diameter. б 3 4-105. 12

"If the splits are twisted more than 1 inch to the foot if small, 2 inches if medium

size, and 3 inches to the toot length if large, the value is reduced one-half.

"The above values will, of course, vary in accordance with the supply and de-

mand for the various sizes and qualities.

"The most suitable texture of wood will be found growing upon the sides of mountains. If grown in the plains, the growth is usually too quick, and consequently the grain is too coarse; the wood of best texture being of slow growth and

very fine in the grain.

"It should be cut down in the winter, and, if possible, stored at once in airy wooden sheds, well protected from sun and rain, and not to have too much air through

the sides of the shed, more especially for the wood under 4 inches diameter.

'The boxwood also must not be piled upon the ground, but be well skidded under, so as to be kept quite free from the effects of any damp from the soil.

"After the trees are cut down, the longer they are left exposed the more danger

is there afterwards of the wood splitting more than is absolutely necessary during the necessary seasoning before shipment to this country.

"If shipped green there is great danger of the wood sweating and becoming mildewed during transit, which causes the wood afterwards to dry light and of a defec-"There is no occasion to strip the bark off, or to put cowdung or anything else

upon the ends of the pieces to prevent their splitting.

"Boxwood is the nearest approach to ivory of any wood known, and will therefore probably gradually increase in value, as it, as well as ivory, becomes scarcer. is now used very considerably in manufacturing concerns, but on account of its gradual advance in price curing the past few years, cheaper woods are in some instances being substituted.

"Small wood under 4 inches is used principally by flax-spinners for rollers and by turners for various purposes, rollers for rink skates, &c., &c., and if free from splits is of equal value with the larger wood. It is imported here as small as 1½ inches in diameter, but the most useful sizes are from 2½ to 3½ inches, and would, therefore, we suppose, be from 15 to 30 or 40 years in growing, whilst larger wood would require 50 years and upwards at least, perhaps we ought to say 100 years and upwards. It is used principally for shuttles for weaving silk, linen and cotton, and also for rule-making and wood engraving. Punch, The Illustrated London News, The Graphic, and all the first-class pictorial papers use large quantities of boxwood."

Messrs. Churchill and Sim, reporting on some boxwood sent to them for sale in 1880, and which fetched 21 shillings per cwt,, equivalent at 60 lbs per cubic foot to 11s. 1d. or about Rs. 6 per cubic foot, say:

The pieces of boxwood were remarkably fine specimens, equal in quality to the best Abasia, and fetched a very high price, equivalent to £21 per ton. These logs were depreciated in value for ordinary purposes, owing to their having been squared, which was a mistake, as in that operation much valuable wend had been wasted, and when the bark is removed, a good protection to the log is destroyed. In the present state of the boxwood trade, and considering the fact that the supplies which have been coming forward for some time past are deteriorating in quality, from the action of the Turkish Government in closing the forests and from other causes, the probability of a supply of this wood from India is a matter of considerable importance. The usual run of this wood would not, however, fetch the high price of this picked sample. The price realized cannot, however, be taken as any criterion, for whether supplies can be sent to this market, and sold at prices which will cover transit and freight, and then

Economic Products of India.
leave a profit, is very doubtful. Could this wood be regularly placed on the market at a moderate figure, there is no reason why a trade should not be developed in it."
Bs. Bs.
H 614. Kulu, 7,000 feet
H 2914. "" "" "" "" "" H 424. Darua block, Deo an, North-Western Provinces, 6,800 feet 55
• For a list of woods suggested as substitutes for boxwood see Appendix under Turnery.
Byrsonima Pulchira, DC. A tree of Mexico and South America. E 3719. Calcutta Botanical Gardens, (1879, Cyclone woods.)
Cabinet-work. See Furniture in Appendix.
. CÆSALPINIA.
Cæsalpinia Bonducella, Roxb., Leguminosæ. Vern.—Katkaranj, katkaleja, Hind.; Nata, Beng.; Bagni, Sonthal.; Akitmakit, Arab.; Kháyabe-iblis, Pers.; Sagurghota, gaja, Bom.; Gajkai, Kan.; Gechchakkay, Tam.; Ka-hendsa, Burm.
A common prickly shrub found all over in India.
C. coriaria, Willd.
This is the American Divi-divi or American Sumach. See Divi- divi or Libi-dibi. The sinuous pods of this plant are used for tanning leather. Wood, weight 56 lbs.
C. Sappan, Linn., Leguminosæ. The Sappan Wood. Vern.—Bakam, tairi, Hind., Guz., Beng.; Pat-anga, Tam., Bom.; Bakamu, bakapu, Tel.; Bokmo, Uriya; Pattang, Mar.; Patanga, Kan.; Teing nyet, Burm.
A small thorny tree of the Eastern and Western Peninsula and Pegu, cultivated in Central India in plantations. Sapwood white, heartwood red. The wood takes a fine polish and does not warp or crack. Weight, according to Skinner, No. 33, 60 fbs. per cubic foot; Wallich
gives 61 lbs. C 3136. Moharli, Central Provinces (cultivated) (sapwood) 52
C. sepiaria, Roxb. THE MYSORE THORN.
Vern.—Urn, úri, arlu, relu, kando, aila, HIND.; Chillar, MAR.; Hotsigé, KAN.; Chillara, Bom. A large climbling prickly bush on the Himalaya, and in Ceylon and Ava ascending to 4,000 feet in altitude.

Makes an impenetrable fence planted for this purpose by Hyder Ali round fortified places. (Brandis.)	• • •
C 8460. Seranda Forests, Chutia Nagpur.	
CALABRIC	
CALAMUS.	182
Calamus acanthospathus, Griff. • Met with in the Khásia Hills.	102.
C. andamanicus, Kurz. Vern.—Chowdah, And. Met with in the Andamans.	183
C. arborescens, Griff (Kurz, ii, 516), PALMA Vern.—Danoung, kyenbankyen, Burm. An erect cane met with in Pegu. B 1026. Toungoo, Burma.	184
C. collinus, Griff. An erect cane met with in the Khásia Hills and in Upper Assam.	185
C. (Dæmonorops) Draco, Willd. Vern.—Dam-ul-akhæan, jaida rumi, hirada khum, HIND. It is a native of the Indian Archipelago. The drug is sold in dark-red, friable masses, from which a blood-red powder is obtained; often sold in the bázár in the interior of canes. This climber yields the Dragon's-blood of the Indian Materia Medica.	186
C. erectus, Roxb. (Fl. Ind., iii, 774.) Vern.—Sungotta, Sylhert; Theing, Burm. An erect cane of Sylhet, Chittagong and Peg.1.	187
C. extensus, Roxb. (Fl. Ind., iii, 777.) Vern.—Dengullar, Sylher. Met with in Sylhet.	188
C. fasciculatus, Roxb. (Fl. Ind., iii, 779.) Vern Bara bet, Beng.; Kyeing-kha, Burm. Met with in Bengal, Orissa, Chittagong, Burma and the Andamans.	189
C. flagellum, Griff. Vern.—Rabi bet, Nepal; Reem, Lepcha; Nagagola bet, Ass. Met with in Sikkim and Assam.	190
C. floribundus, Griff. Met with in Upper Assam.	191
C. gracilis, Roxb. (Fl. Ind., iii.) Vern.—Mapuri bet, BENG.; Kraipang, MAGH; Hundi bet, Ass. Met with in Assam and Chittagong.	192
C. grandis, Griff. Syn.—D@MONOROPS GRANDIS, Kurs (Enum, 30.) Met with in the Andamans.	. 193

ART VII.]	Economic	Products	of India.	
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CALAMUS.	
194	Calamus Guruba, Mart. Vern.—Kyeingnee, Burm. Met with in Chittagong and Burma B 1031. Toungoo.
. 195	C. Helferiafius, Kurz (ii, 521; Enum., 39.) Met with in Tenasserim of the Andamans.
196	C. humilis, Roxb. An erect cane of Chittagon.
197	C. hypoleucus, Kurz (ii, 523.) Syn.—Dœmonoros hypoleucus, Kurz (Fnum., 29) Met withein Tenasserim.
_ 198 · -	C. inermis, T. And. Vern.—Dangri bet, Nepal; Brool, Lepcha. Furnishes the finest Alpenstocks. E 1016. Darjeeling.
199	C. Jenkinsianus, Griff. Syn.—Cymbospathes Jenkinsianus, Gamble. Vern.—Gola pet, Ass. Met with in the Sikkim Terai, the Dúars and Assam. E 1018. Darjeeling. E 1300. (Galbah) Cachar.
200	C. latifolius, Roxb. (Fl. Ind., iii, 775.) Vern. Korak bet, Chittagong; Sain, Magh; Yamatha, Burm. Met with in Chittagong Burma, and the Andamans. This cane is much used in Burma for tying timber in rafts, as making the cables which stretch across the river at the Salween rostation. B 1001, 1003, 1027. Burma. E 1004. Chittagong.
201	C. leptospadix, Griff. Vern.— Dangri, bet, NEPAL; Lat, LEPCHA. Found in Sikkim and the Khásia Hills.
202	C. longipes, Griff(Vern.—Gola bet, SUNDERBUNDS. Dr. King has identified this plant, proving the existence in India of species hitherto supposed to be confined to Malacca. E 1007 Sunderbuns.
203	C. macracanthus, T. And. Vern.—Phekopi bet, Nepal; Ruebee, greem, Lepcha. E 1017. Darjeeling.
204	C. macrocarpus, Griff. Syn.—C. erectus, Roxb. An erect cane, met with in the Bhutan Dúars.
L	52 /

Timbers.	[PART VII
•	CALAMUS
Calamus Mastersianus, Griff. syn.—C. Guruba, Kurs. Vern.—Sundi-bet, quabi-bet, Ass.	205
E 1299. Cachar. C. mishmiensis, Griff. Met with in the Mishmi Hills.	206
C. montanus, T. And. Vern.—Gouri bet, NEPAL; Rue, LEPAHA. Found in Sikkim and Bhutan. Yields the best cane for suspension bridges and dragging logs in Sikkim.	207.
C. nutantiflorus, Griff. Met with in Assam.	208
C. palustris, Griff. Syn.—C. LATIFOLIUS, Kurs (ii, 518.; Enum., 34.) Met with in Mergui.	209
C. paradoxus, Kurz (ii, 521; Enum., 40.) Met with in Martaban.	210
C. polygamus, Roxb. (Fl. Ind., iii, 780.) Vern.—Húdúm, Chittagong. Met with in Chittagong.	211
C. quinquenervius, Roxb. (Fl. Ind., iii, 777.) Vern.—Hurnur-gullar, Sylhet. Met with in Sylhet.	212
C. rotang, Linn THE RATTAN CANE. Syn.—C. ROXBURGHII, Griff. Vern.—Bed, Perss.; Bit Cachibet, Beng., Hind.; Pepa, prabba, C. P.	2 13
Perambu, TAM.; Beta mu, TEL. It is met with in Bengal, Assam, South India, and Burma. This is the species which yields the best Rattan Cane of commerce Other species are, however, used as substitutes. It is split into strips and plaited or woven into baskets, chairs, sofas, and carriages. It is twisted into ropes, or stretched entire across rivers, as the main supports of indigenous suspension bridges.	s s
C. Royleanus, Griff. Syn.—C. Rogang, Linu. Met with in Dehra Dun and in Northern Bengal.	214
C. schizospathus, Griff. Vern.—Rong, Lepcha. An erect cane, native of Sikkim and the Khásia Hills. Stem about 2 inches in diameter with hard wood and closely-packed fibro-vascular bundles; very close, as usual, towards the edge.	215
C. tenuis, Roxb. (Fl. Ind., iii, 780.) Vern.—Bandhuri bet, Chittagong; Kring, Magh.; Yalla bet, Ass. Met with in Assam, Sylhet, Chittagong and Pegu. E 3377. Sivoke Hills, Darjeeling.	216
53	•

ALLICAR-

217

Calamus tigrinus, Kurs.

Veri.-Lems, Burm.; Amdah, Anb.

Found in Burma and the Andamans.

B 1042. Andamans. e

Vernacular names given to Canes sent to the Paris Exhibition, the scientific names of which could not be determined.

Persons who have the opportunity of doing so may find it possible to supply fresh specimens of these plants along with leaves and fruits so

as to admit of their identification.

From Chittagong were reclived Kerak jayat and golak; the first is probably C. latifolius; from Assam Riphin, ringer, risan, raidana, bent, sowka bent, rangi, pakhori, hewka, charainari, lijai; from Cachar Jali, soondi, and gallah; from Burma, Theinkyeng, dyauthaukyeng, engkyeng, toungkyeng, kyengbot, yanoung, khaboung; from South Kanara Betha and nagabetha, and from the Andamans Boledah, jobetahdah, jobetah, and a palm called chardah.

CALICOPTERIS.

218 Calicopteris floribunda, Lam., Combretace E.

Syn.—GETONIA FLORIBUNDA, Roxb. Fl. Ind., ii, 428.

Vern.—Kokoranj, C. P.; Bandi, murududu, Tel.; Marsada, boli, Mysore.

A large climbing shrub of Central and Southern India.

Wood yellowish-white, moderately hard, with numerous broad medullary patches of soft, pith-like texture.

C 2755. Moharli Reserve, Central Provinces

lbs. 45

CALLICARPA.

Callicarpa arborea, Roxb. (Fl. Ind., i, 390), Verbenacer. 210

Vern. - Ghiwala, dera, shiwoali, Kumaun; Bormala, Beng.; Bundun, Kol; Bogodi, gogdi. Kharwar; Boropatri, Uriya; Dum Kotokoi, Sonthal; Sakrela, Mal.; Goehlo, Nepal.; Kodo, koso; Mechi; Sung-a, Lepcha; Doika, Rajbanshi; Khoja, Ass.; Makanchi, Garo; Turmong, Magh; Doung-sap-pyay, BURM.

A moderate sized tree with brownish, rough grey bark of Kumaun, Oudh, Eastern Bengal and Burma; chiefly in second growth forests.

Wood grey, moderately hard, even-grained. Annual rings visible. Not used except for charcoal.

lbs. 597. Khookloong Forest, Darjeeling Terai. 32

E 2397. Bamunpokri, Darjeeling Terai 35

Seemah Reserve, Palamow, Chutia Nagpur. C 3445

C. cana, Linn. 220

Vern.—Arusha, CHITTAGONG.

A shrub of Bengal; common in forests and along roadsides in the Terai and Duars, extending probably southwards to the Ganges.

Wood white, soft. Annual rings marked by a line of closer pores.

E 3276. Dainah Reserve, Western Dúars.

	Time	bers. `	•		. [PART V
.•			••		CALOPHY LUM.
	CALLIGO	NUM.		•	• •
alligonum polygo	onoides, Linn.,	Polygona	EE.	Do	221
A slow-growing Rajputana, Afghani	s, berwaja, tatúke, l shrub of the a stan and Western are hollow. Hea	urid zone o n Asia.	f Sind, the	Punjab an	
The wood is chiefly the walls and roofs	used for fuel. T	he branche	and twig	s are used fo	or ·
		<i>I</i>			
	CALOPHY	LLUM.		•	
alophyllum inopl	_		•		222
Vern.—Sultan Púna, púna: undí, SIND; An evergreen tr India, Ceylon, Bur	brown, moderate	ENG,; Poonan binekai, KAN Ponguyet, Bu he Western arflan Island ly hard, cle	i.; <i>Undi</i> , M RM.; <i>Bintan</i> Peninsula, s. ose-grained	AR.; Surang gor, MAL. Orissa, Sout . Used for o for cabino	f, h
W 733. S B 2257. A B 22 5 8. B 2263.	outh Kanara . Indaman Islands	(1866) "	· · · · · · · · · · · · · · · · · · ·	. 38 . 45 . 44 . 26	
An evergreen to Chittagong and Bu	b, BENG.; Kironli, ree of Northern and arma, ascending to ame as that of C. ttagong for masts	nd Eastern I o 5,000 feet. spectabile.	Bengal, the Mr. Ches	Khásia Hill ster says it nd sometime	is
E 1400. C E 3692. E 2490. C E 2052. C	Chittagong , Hill Tra Chenga Forest, Da Chunbati, Darjeeli have the same s	acts (1882) arjeeling Te ng, 3,000 fec tructure as	rai . et . C. polyan	. 44 . 42 . 38 . 39 thum, but th	ne
SyrC. Mo Exhibition C Vern.—Panta HIND. (FRO	dd. ONII, Wight (Bedd. Catalogue; C. TETR. -ka, kyandoo, BUR. M ANDAMANS.) In tree of Tenasser, shining, cross-gr also for planking	M.; Dakar im and the ained, mode , for which p	oxo. (Fl. 1906) táladú, Ani Andaman I rately hard	Islands Islands Is used for as lately become	zi,
	ndaman Islands	urs, 1866) Iome, 1874, I	No. 14, Tee	•	:
				55	

	¢.
PART VII	
DAMELIA.	1:
·225 .	Calophyllum tomentosum, Wight.
بمر	Sgn.—C. Elatum, Beddome (t, 2.)
. 4	Vern.—Poon, poone, Mal.; Pongoo, Tam; Siri poone kuve, bobbi, Kan. A large, tall evergreen tree of the evergreen forests of the Western Coast from Kanara southwards. Structure the same as that of C spectabile. Yields the Poon spars of commerce, good spars often fetching large prices. It is also used for building and bridge-work.
-	W 762. South Kanara
, 22 6	C. Wightianum, Walk. Syn.—C. Decipiens, Wight (I.c., 106.) Vern.—Kalpoon, kull-ponné, Kan.; Cheru pinnay, Tam. An evergreen tree, met within the Western Ghâts from the Konkan to Travancore. Wood hard, red. Beddome says the timber is much esteemed and valuable for engineering purposes.
	W 861. South Kanara 45
	CALOTROPIS.
227	Calotropis gigantea, R. Br., Asclepiadeæ. Vern.—Akundá, Beng.; Madár, ark, ak, Hind.; Mándárá, akadá, Bom.; Auk, Nepal.; Yercum, Tam.; Verica, Mal.; Nella-jilledu, yekka, jilledu chettu, Tel.; Arka, pratápasa. Sans.; Ushar, Arab.; Kharak, Pers.; Mayo-beng, Burm.
·	A large shrub, found all over India in waste places and along the road sides. The fibre is exceedingly strong and good; the hairs from the seeds are largely used for stuffing pillows; the wood is used for making charcoal; and the root and the milky sap are regarded as valuable medicines.
	CAMELIA.
228	Camelia drupifera, Lour., TERNSTRŒMIACEÆ. Syn.—C. KISSI, Wall. Vern.— Kissi, hingua, NEPAL; Chashing, BHUTIA, LEPCHA.
	A large evergreen shrub of the Eastern Himalaya, Assam and Khásia Hills, as anding to 8,000 feet, of Tenasserim and the Andaman Islands. Wood pink, moderately hard, close and even-grained.
	E 3111. Kalimpung, Darjeeling, 4,500 feet E 3358. Sivoke Hills, Darjeeling, 1,500 feet 60
229	C. Thea, Link. THE CHINA TEA PLANT. Syn.—C. THEIFERA; Griff (Hook, Fl. Ind., i, 292) (THE ASSAM TRA
	Vern.—Cha. A, shrub with thin grey bark, cultivated in many districts in India, especially in Kangra, Kulu, Dehra Dún, Kumaun, Darjeeling, the

	Timbers.			•			· [PART VI
			•				•.	CAPPARI
Western Dúars, Assam, Ca ern India, as well as in the Wood grey, soft.	ichar, Chittago Nilgiri Hins a	ong an ind Ce	d Ha	záribá	igh,	in No	rth-	
O 3142. Dehra Dúi	ı	•.	•	•	•	1bs. 56		•
				•	•			•
. (CANARIYI	M.	•				Ì	•
Canarium bengalense, A Vem.—Goguldhúp, Ne. jang, dhúna, Ass.			HA; Z	[ekren	g, G	ARO;	Bis-	• 2 50 °
A tall tree with straig Eastern Himalaya, Bengal	and Burma.						- 1	•
Wood shining, white w even-grained, does not war in Bengal for tea-boxes, an	p, but decays r	eadily	g grey . It	on e is m	xpos uch	estcen	led	•
E 703. Great Rang E 3592. Sukna For				o feet	: . •	lbs. 28		
C. strictum, Roxb.								231
THE BLACK DAMMA Vern.—Kala dammar, 1 dammar, TAM.; M TEL.	HIND., BENG., C	Guz.; <i>I</i> N.; <i>T</i>	Karapı helli,	i, kon Mal.	gilia ; N	m, kar ala roj	apu an,	
A tall tree of South Ind	lia. ·							
	CAPPARIS	S.						•
Capparis aphylla, Roth., (Vern.—Karil, Pn.*; Kir A small tree, found in	al, SIND; Kari,			tona	and	the D	olt.	232
kan.	-						1	
Wood light-yellow, tur and close-grained. Used the knees of boats, for oil-n good firewood, and is not e	for small be nills and agricu	ams a ıltural	nd ra	ıfters	in 1	roofs,	for	
						lbs.		
P 892. Multán	• • •	:	•	:	:	53	İ	
P 941. ,. P 3056. ,,		•	:	:	:	•••		
C. grandis, Linn. f.								233
Syn.—C. BISPERMA, Ros Vern.—Guli, regguti, r	xb. (Fl. Ind., ii, ; agota. Tri	569.)						-
A small tree of the Cha the Eastern Ghâts and Ca	nda district an		•				1	
Wood white, moderatel durable; much used by the							gs;	•
C 1134. Ahiri, Cent	ral Provinces			•		№. 46		
			•	A		57	, •	• •

BART VII	.] . Econamic Products of India.
ARALLIA.	
234	•
	P 3244. Ajmere
- ,235	C. multiflora, Hook. f. and Th. Vern.—Suntri, Nepal. A climbing thorny shrub of the Eastern Himalaya and Upper Burma. Wood white, moderately hard. E 3349. Nagri, Darjeeling, 4,000 feet.
236	C. olacifolia Hook. f., and Th Vern.—Naski, hais, NEPAL; Thenok, LEPCHA. A thorny shrub of the Sub-Himalayan tract from Nepal to Assam chiefly in the undergrowth of sissu forest, along rivers. Wood white, hard.
	E 3297. Balasun, Darjeeling Terai
237	C. sepiaria, Linn. Vern.—Hiùn garna, PB.; Kanti kapali, URIYA. A shrub, growing in dry places in India and Burma. Wood white, hard. P 3242. Ajmere. C 3580, from Khurdha, Orissa, is this species. The wood resembles that of the Ajmere specimen, but the medullary rays are moderately broad and longer.
	CARALLIA,
238	Carallia integerrima, DC., RHIZOPHOREE. Syn.—C. lucida, Roxb. (Fl. Ind., ii, 481; Kurs, i, 451.) VernKierpa, Beng.; Palamkat, Nepal.; Kusitekra, Ass.; Karalli Tel.; Andipunar, Kan.; Punschi, Bom.; Dawata, Cinich.; Bya Arracan; Maneioga, Burm. An evergreen tree with thin, dark-grey bark, found in the Eastern and Western moist zones, in Eastern Himalaya, Bengal, Burma, South India and the Andamans. Sapwood perishable; heartwood red, very hard, durable, works and polishes well. Used in South Kanara for furniture and cabinet-making, and in Burma for planking, furniture and rice-pounders. W 743. South Kanara
	B 308. Burma (1867)

CAREYA.

No. 907. Ceylon Collection (Mr. Adrian Mendis)—Vern. Ukbeiriye, Cingh., is probably C. Calycina, Benth. The wood is dark, in structure resembling C. integerrima.

CARAPA.

Carap	a moluccensis, Lam	., MELIACEÆ.			
_	Syn.—C. OBOVATA, Bl. (Kurs, i, 226); XY	LOCARPUS GRA	NATUM,	Kön.
• '	VernPoshur, pussur,	dhundul, BENG.;	Kandalanga,	TAM.;	Pinla-
	young, Burm.	•			

A moderate sized evergreen tree of the Coasts of Bengal, Malabar,

Burma and Ceylon.

Wood white, turning red on exposure, hard. Weight about 45 to

50 lbs. per cubic foot.

Used in Burma for house-posts, handles of tools and wheel spokes. Captain Baker in May 1829, in Gleanings in Science, spoke of Pussur or Pussoah as being a jungle wood of a deep purple colour, extremely brittle and liable to warp. He said that native boats made of the best species last about three years, and that the wood, if of good quality, stands brackish water better than sal.

						The.
E 402.	Sundarbans			•	•	41
B 2514.	Burma (1862) .	•	•		•	42
B 2239.	Andamans (1866)					41
E 3696.	Sundarbans (1882)			•		40

CAREYA.

Careya arborea, Roxb., Myrtaceæ.

Vern.—Kumbi, kumbh, khumbi, HIND.; Pilu, BANDA; Gumar, MAND-LA, BALAGHAT; Kumri, CHHINDWARA; Gummar, GOND; Boktok, LEPCHA; Dambel, GARO; Ayma, pailae, poota-tammi, TAM.; Asunda, KOL; Kum, BHYMI]; Budá-durmi, buda darini, dudippi, Tel.; Gavuldu, Mysore; Bambway, Burm.; Kabooay, Taleing; Tagooyi, Karen; Kahatte, Cingh.

A large deciduous tree, leaves turning red in the cold season, found in the Sub-Himalayan tract from the Jumna eastwards, in Bengal, Burma, Central and South India. Growth fast; a round in the Bengal Fruit

Museum gave four rings per inch of radius.

Sapwood whitish, large; heartwood dull red, sometimes claretcoloured, very dark in old trees, even-grained, beautifully mottled,
seasons well, very durable, moderately hard. The specimens brought
by Dr. Wallich from Tayoy in 1828, and that brought from the
Mishmi Hills by Dr. Griffith in 1836, were quite sound on being cut up,
though they had been stored for 50 years in Calcutta. The wood
is little used except for agricultural implements. It is being tried for
railway sleepers on the Eastern Bengal and Northern Bengal State
Railways, but the result of the experiment is not yet known. Kurz
says it is used in Burma for gun-stocks, house-posts, planking, carts,
furniture and cabinet-work. It stands well under water.

								LUG.
O 208.	Garhwal (1868)	•	•		•	•	•	53
O 228.	21 31				•			53
O 1479.	Kheri, Oudh					•		59
	Ahıri Reserve, C	entra	l Prov	vince	·s .			-5 8
	Moharli Reserve			••		(boow		

239 .

Economic Products of India.

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		_				•
ł	74.	e y	27	~	TS.	,

	•				
E 624.	Rakti Forest, Darjeeling Terai				48
E 2378.	Sivoke " ", ",	•	•	•	51
E 1441.	Mishmi Hills (Griffith, 1836)				56
B 2703.	Tavoy (Wallich, 1822)			. '	59
B 2685.),), · ·				56
B 2710.	99 99 • •				51
B 2226.	Andaman Islands (1866) .				55
B 3147.	" " (Home, 1874)				56
No. 41.	Ceylon Collection		•		38

Carissa Carandas, Linn., APOCYNACE E.

 Vern. — Kau nda, karúnda, garinga, karroná, timukhia, gotho, HIND.;
 Kurumia, karamcha, bainchi, Beng.; Kendakeri, kerendo kuli, URIYA;
 Karmurda, SANS.; Kalaka, TAM.; Kalivi kaya, TEL.; Kareki, heggerjige, KAN.

A bush cultivated for its fruit in most parts of India; said to be wild in Oudh, Bengal, and South India.

Wood white, hard, smooth, close-grained.

3511. 3569. Khurdha Forests, Orissa.

242

C. diffusa, Roxb. (Fl. Ind., i, 689.)

Vern.—Karaunda, Hind.; Kanuwún, Oraon; Anka koli, Uriya; Gán, garna, garinda, PB.; San karunda, Uriya; Wakoilu, Tel.

A small, thorny, evergreen shrub, with light-grey bark. Wild in most parts of India, especially in the drier zones and in the plains of the Punjab, the Sub-Himalayan tract up to 4,000 feet, and in Trans-Indus territory; also on the coast of South Andaman. (Kurs.)

Wood hard, smooth, close-grained, said when very old (in Kangra) to be black and fragrant. (Brandis.) It is generally gregarious, often forming undergrowth in forests of Pinus longifolia, bamboo, and occasionally teak. It spreads rapidly in clearings, coppices freely, and makes an excellent fuel. It is used for turning and combs, and to make dry fences.

P. 112. Bhajji, Simla, 4,000 feet.

Khurdha Forests, Orissa. . 3518.

C. 3649. It kuri, Hazaribagh.

CARPINUS.

243

Carpinus faginea, Lindl., Cupuliferæ.

Vern.—Shirash, imar, bijavwi, PB.; Gish, N. W. P.

A moderate sized tree of the Himalaya from the Beas eastward; altitude 4,000 to 7,000 feet.

244

C. viminea, Wall.

Vern.—Charkhri, kái, PB.; Pumne, goria, chamkharak, N. W. P.; Chukissi, konikath, NEPAL.

A moderate sized tree of the Himalayas, from the Ravi castwards, from 5,000 to 7,000 feet, often near water; and of the Martaban Hills at 5,000 to 6,000 feet. Wood white, shining, no heartwood, warps in seasoning. The stem

Zimbers.	[PART VII
	CASEARIA
is irregular in section like that of the European Hornbeam, which it much resembles both in bark and wood, and in general appearance. Let access Sini Simila 6 root feet	
H 3098. Sipi, Simla, 6,500 feet 50 Cart and Carriage-building—Woods used for. See Appendix.	
CARYOPTERIS. •	
Caryopteris Wallichiana, Schauer, Verbenacer. Vern.—Moni, mohāni, Kumaun; Stechin, Nepal.; Malet, Lepcha. A large shrub with thin grey papery bark, peeling off in vertical strips, met with on the Outer Himalaya, from the Indus to Bhutan, ascending to 3,000 feet. Wood dark-grey, moderately hard, with the scent of cherry wood.	245
E 2402. Chunbati, Darjceling, 2,000 feet 44 E 3668. Rinkinpung, Br. Bhutan 3,000 feet.	
••	
CARYOTA,	246
Vern.— Rungbong, simong, LEPCHA; Bara flawar, Ass.; Salopa, URIYA; Mhár, maridi, mari, jirūgū, Trl.; Conda-panna, crim-panna, utali-panna, TAM.; Bhyni, beina, bagni, KAN.; Berli, MAR.; Shunda pana, MAL.; Kittūl, nepora, Cingh.; Hlycmban, MAGH; Minbo, BURM. A beautiful palm, with smooth, annulated stem, met with in the forests of the western and eastern moist zones. On the Western Ghâts it extends to near Mahableshwar. It is common in Burma, Bengal, and Orissa, ascending in Sikkim up to 5,000 feet. The outer part of the stem is hard and durable and the vascular bundles crowded, black, very large. The wood is strong and durable; it is used for agricultural purposes, water conduits and buckets.	•
E 2459. Chawa Jhora, Sivoke, Darjeeling 45 No. 44. Ceylon Collection	
CASEARIA.	
Casearia glomerata, Roxb. (Fl. Ind., ii, 419), CAMYDACEE. Vern.—Lúrjúr, Sylhet; Burgonli, Nepal; Sugvæt, Lepcha. A large evergreen tree, found in Eastern Bengal, ascending to 6,000 feet, and in Chitagong. Wood yellowish-white, moderately hard, rough. Used for building, charcoal and occasionally for tea-boxes. Ibs.	247
E 691. Chuttockpur Forest, Darjeeling, 6,000 feet. 48 E 2381. " " " 45	
C. graveolens, Dalzell. Vern.—Chilla, náro, katchera, pimpri, HIND.; Rari, KOL; Beri, KHARWAR; Newri, Sonthal; Girchi, Gond; Rewat, KURKU. A small deciduous tree, found in the Sub-Himalayan tract from the Chenab eastwards, in Oudh and Central India.	248
61 .	• .

		£								
ASSIA.								,		
	Wood light-yellow, moderately The fruit is used to poison fish.	hard,	roug	h, eve	n-grai	ined		used		
	O 240. Garhwal (1868)	•	•				lbs. 42			
•	O 271. ", ", ", ", ", ", ", ", ", ", ", ", ",	•	•	•	•	•	40			
•	O 1456. Bahraich, Oudh O 300. Kheri, Oudh	•	•	•	:	•	49 •••			
· 249	Casearia tomentosa, Roxb. (F	7. Ind.	. ii. 1	a21.)						
4	Vern.—Chilla, chilara, bairi, b gan-gudu, Tel.; Lainja, m war; Chorcho, Sonthal, M dri, Gond; Khesa, Kurka. A small tree of the Sub-Hima of Oudh, Eastern Bengal, and C	hari, H zssei, ka unkuro- llayan	ind; irei, M kuri, l tract	Maun, IAR.; MAL.; from	the I	ndu:	RIYA;	Thun		
	Wood yellowish-white, moder	ately h	and S	rough	, clos	e-gra	ained;	usec		
							lbs.			
	O 1363. Gonda, Oudh.	•	•	•	•		41			
	O 3085. "," Oudh	•	•	•	•	•	•••			
	O 3089. Kheri, Oudh C 1183. Ahiri Reserve, C	antral	Provi	nces	•	•	4.7			
	C 2802. Melghát, Berar	voung) .	inces	•	•	41 38			
•	C 3527. Khurdha Forest,	Orissa	ί.	•		•	43			
	, CA	SSIA	١.	•						
250	Cassia auriculata, Linn., Leg		_•							
_50	Vern.—Tarwar, HIND.; Tang	redu, ta	ngar,	Tel.;	Avari	ke, K	AN.			
ť	A shrub of Central and Sout	h India	a.							
251	C. Fistula, Linn.									
	THE INDIAN LABURNUM.									
	Syn.—Cathartocarpus Fistula, Pers.									
	Vern.—Amaltás, HIND.; A Raj-briksh, kitola, KUMAUN dali, bandarlati, BENG.; KOL.; Dunrás, KHARWAR shimarra, sím, NW. P.; karkacha, C. P.; Raella, GOND; Banag, bangru, birij, NEPAL; Sonalu, G Sunaru, ASS.; Bandolat rela, suvarnam, konay, CINGH.; G.ooskway, gnoo A moderate sized deciduou cending to 4,000 feet, and throu Sapwood large, heartwood red to brick-red, very hard t concentric lines which may poss The wood is very durable timber. It makes excellent po implements and rice-pounders.	Nunu; Chim Nunu ; Sana Warga, BAIGA KURKU; GARO; CACH. iel.; Kgyee, Bi s tree ghout I varying o extra ibly be ; but sts, an	ikani, i, Sordari, OUDI s; Fah s; Bah AR; aki, URM. of th India g in cemely annu rarely d is	SIND. NITHAL URIVA H; Yaggra, awah, relati, Kone, I'AM.; e Sul and B color fi hard al rin of su good	; Guri; Sono; Sono; Kono; Kakkoo-Himaurma com gg. Sh	mala iwir, wáli, ih, r úa, bawa laur ne, E, K nalay rey (arp,	, Guz.; MAL; MAL; kitoli, kitoli, kidal, h kambar t, Nak.; PALA TAM; AN.; van tra thin, large s	Har itola it		
•	P 101. Sutlej Valley, P P 437. Ajmere	unjab,	3,000 •	feet •	•	•	•			
	P 439.	•	•	•	•	•	. 61			
	O 244. Garhwal (1868)		•				. 52	:		

	14	mbers.			٠. ٢	PART V
		1.	••		•	CASSIA
O 333. G	orakhpur (1868)) • .	•		52	• •
	hiri Reserve, Co		ices	. •.	56	•
	húrdha Forests			•	58	
	ohagarhi Forest amunpokri, Da	rieeling Ters	ierai		62 62	• :
	amrúp, Assam		• •	: :	60	•
	outh Kanara		•	. *	62	
	lysore		•		58	•
	lorth Arcot, Ma Iurma (1862)	idras .	•		73 66	
	e between the	. wood of t	ic trop or	d that o		-
dalbergioides con						•
tissue are contir	iuous, forming	belt s; wh	ereas in	Ougeini	they are	
rhomboidal, point					-	
assia marginat	a. Roxb. (F1.	Ind., ii. 226	?.)	•		. 252
	XBURGHII, D.C.				•	
Vern.—Urin	ridi, uskiamen, T	EL.; Ngoome	e, Burm.;	Ratoo-u	aa, Cingh.	Ì
A small deci	duous tree, wit	h deeply ci	acked, b	rown ba	rk, found	
in Madras, Ceylo	on and Burma (Thoungyeer	forests).	all ad	antad for	
turning, naves of	ght-brown, very	nara. Int	wona is	wen ad	apted for	
turning, naves or	wheels and har	nuics of tools	•		lbs.	
B 301. Bu	rma (18 62)	•	• •		59	
. siamea, Lamk	•		•			253
	LORIDA, Vahl. (B	eddome, "t., 1	79); Senn	A SUMAT	rana, <i>Roxb</i> .	
(Fl. Ind.,		T Cima		117	- Cwan -	
Vern.—Beat Maisalee,	i, manje konne, Rupm	1 AM.; Sime	tangaai, K	.AN.; Wa	a, CINGH.;	
	sized tree with	smooth ba	rk found	l in Sou	ith India,	•
Burma and Cevl	on.					
Sapwood wh	itish, rather la	arge. Hea	rtwood d	ark-brow	n, nearly	1
black, very hard walking-sticks;	; very durable.	. Used in Bi	urma tor t	namets, l	onsidered	
one of the best k	inds of fuel for	locomotives	in Cevlon	. (Bedd	ome.)	
Jil of the best h				,	lbs.	1
	North Arcot				58	
В 2526.	Burma (1862)		• •		54	
B 2712.	Tavoy (<i>Wallich</i> R. B. Gardens,	, 1020) Calcutta (19	18t) -	• •	52 45	
	ic. D. Gardens,	Juiculus (10	, •	•	43	
E 3710.						254
C. sp?		Andaman	Islandş, in	1866, a	sample of	
. sp? Major Ford	sent from the	and the contract of		arr, cimil		
S. sp? Major Ford a hard durable y	wood, olive-brov	vn, with a st	tructure v	ery simil	ar to that	
C. sp? Major Ford a hard durable v of Ougeinia dal	wood, olive-brov b ergioides. Ev	vn, with a st vidently a co	tructure v	ery simil	ar to that wood and	
Major Ford a hard durable v of Ougeinia dal known by the na	wood, olive-brow bergioides. Evame of Gnoogye	vn, with a st vidently a co	tructure v	ery simil	wood and	
Major Ford a hard durable v of Ougeinia dal known by the na	wood, olive-brov l bergioides. Ev ame of <i>Gnoogye</i> Andaman .	vn, with a st vidently a co	tructure v	ery simil	wood and 1bs. 45	
Major Ford a hard durable of Ougeinia dal known by the na B 2260. B 2295.	wood, olive-brow bergioides. Evame of Gnoogye Andaman .	vn, with a st vidently a co	tructure v	ery simil	wood and	
Major Ford a hard durable v of Ougeinia dal known by the n B 2260. B 2295. c. timoriensis,	wood, olive-brow bergioides. Evame of Gnoogye Andaman	vn, with a spridently a concer.	tructure vommon A	ery simil	wood and 1bs. 45	255
Major Ford a hard durable to of Ougeinia dal known by the na B 2260. B 2295. C. timoriensis,	wood, olive-brow bergioides. Evame of Gnoogye Andaman . " DC. Temene, CINGH.;	vn, with a sidently a coe.	tructure vommon A	ery simil ndaman	wood and 1bs. 45 46	255
Major Ford a hard durable v of Ougeinia dal known by the na B 2260. B 2295. C. timoriensis, Vern.—Arr	wood, olive-brow bergioides. Evame of Gnoogye Andaman	vn, with a stridently a concern a co	tructure vommon A	ery simil .ndaman	wood and lbs. 45 46	255
Major Ford a hard durable v of Ougeinia dal known by the na B 2260. B 2295. timoriensis, Vern.—Arr A handsome Wood dark	wood, olive-brow bergioides. Evame of Gnoogye Andaman	vn, with a stridently a conce. Toung maisanen tree, met black. St	tructure vommon A	ery simil ndaman	wood and lbs. 45 46	255 . ·
Major Ford a hard durable v of Ougeinia dal known by the na B 2260. B 2295. Limoriensis, Vern.—Arr A handsome Wood dark. C. siamea; used	wood, olive-brow bergioides. Evame of Gnoogye Andaman	vn, with a stridently a coe. Toung maisae en tree, met black. St building and	tructure vommon A	ery simil ndaman	wood and 1bs. 45 46 d Ceylon. g that of	255
Major Ford a hard durable v of Ougeinia dal known by the na B 2260. B 2295. timoriensis, Vern.—Arr A handsome Wood dark C. siamea; used	wood, olive-brow bergioides. Evame of Gnoogye Andaman	vn, with a stridently a coe. Toung maisae en tree, met black. St building and	tructure vommon A	ery simil ndaman	wood and lbs. 45 46 d Ceylon. g that of	255

Α	STANOP-
	SIS.

Cassia Tora, Linn.

THE FŒTID CASSIA.

Vern.—Chakunda, HIND. and BENG.; Tánkalá, kovaríya, Bom.; Tarota, DEC.; Ushit-tagari, TAM.; Tagarisha chettu, Tel.; Dan-ky-wai, BURM.; Prabanatha, SANS.

A gregolious under-shrub, from 1 to 2 feet in height, found everywhere in Bengal, widely spread and abundant throughout India.

CASTANOPSIS.

Castanopsis indica, A/ph. D_{h} ., Cupulifera.

Syn.—CASTANEA INDICA, Roxb. (Fl. Ind., iii, 643; Kurs, ii, 478); QUERCUS SERRATA, Roxb. (l. c., 641, probably.)

Vern.—Banj katús, NEPAL; Kashiorón, LEPCHA; Serang, Ass.; Charang, GARO; Tailo, CACHAR; Nikari, gol-shingra, SYLHET.

A moderate sized evergreen tree met with in Nepal, Eastern Bengal,

Assam and Chittagong, ascending to 5,000 feet.

Wood grey, hard. It splits well and is very largely used for shingles in Darjeeling. It coppies freely, and is often pollarded and the branches burnt for manure.

							ibs.
E	494.	Dalka Jhar, Darjeeling Khookloong Forest,,	Terai	•	•	•	43
E	681.	Khookloong Forest,,	**	•			45
E	1254.	Tezpur, Assam	. ŧ		•		44

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C. rufescens, Hook. f. and Th.

Vern.—Dalné katús, NEPAL; Sirikishu, LEPCHA; Hingori, Ass.

A very large evergreen tree of Sikkim Himalaya, from 6,000 to

0,000 feet.

Wood grey, hard. Annual rings marked by narrow belts of firmer ture. It is used in Darjeeling for house-building, agricultural implements and other purposes, exactly as that of Quercus pachyphylla, which it very closely resembles. It makes excellent shingles, and is more valuable as planking and posts wherever exposed to wet than other species of this genus.

		Rangbúl	Forest,	Darjeeling,	7,000 feet	•	•	47
E	2457.	,,	"	,,	,,			45

259

C. tribuloides, Alph. DC.

Syn.—Castanea tribuloides, Kurs (ii, 480); Quercus Ferox and Q.

ARMATA, Roxb. (Fl. Ind., iii, 639, 640.)

Vern.—Túmari, katong, Kumaun; Musré katús, kotur, chisi, maku, shingali, Nepal; Bar hingorí, kanta singar, Ass.; Dingsaot, Khasia; Singhara, Tipperah; Kanta lal batana, Chittagong; Kyansa,

An evergreen tree, met with in South-East Kumaun, Nepal, Eastern Bengal, ascending from the plains to 6,000 feet, in Chittagong and hills in Burma, above 3,000 feet.

Wood grey, moderately hard. Annual rings marked by darker lines. Used for planking, and is good and durable; also for shingles.

The tree coppices admirably, and with C. indica, Quercus spicata and Engelhardtia should be grown wherever firewood and charcoal forests are required, as they often are by planters.

E	626.	Dulka Jhar,	Darjeeling Forest, "	Terai		32
E	495.	Khookloong	Forest, ,,	,,		39

Timbers.	[PART VI
	CEDRELA
CASTANOSPERMUM.	200
Castanospermum australe, A. Cunn., Leguminos. The Moreton Bay Chestnut. A tree of subtropical regions of Australia, occasionally planted for ornament. Wood white, with a yellowish tinge, hard. E 3653 Bamanpokri, Darjeeling Terai (from a planted tree).	
CASUARINA.	٠,
Casuarina equisetifolia, Forester, CASUARINACEE. THE BEEFWOOD OF AUSTRALIA. Syn.—C. MIRICATA, Roxb. Vern.—Chouk, Tam.; Serva, Tel.; Kásrike, Mysore; Tinyu, Surm.; Aru, Mal. A large evergreen tree, with leafless drooping branches, and branchlets which are deciduous and perform the functions of leaves; found in the coasts of Chittagong, Burma, the Malay Archipelago, North Australia and Queensland; cultiva ed all over India, except in the north-western portion of the Punjab. Wood white, brown near the c ntre, very hard, cracks and splits. It is hard and heavy, and difficult to cut, and according to Skinner, No. 42, weighs 55 lbs. per cubic foot; our specimen gives 62 lbs. It has b n largely planted in North Arcot, South Arcot, Madras and	261
other districts of the Madras Presidency for fuel, for which it is excellent, but it requires to be near the sea-coast and to have water at the roots, at least 10 feet from the surface of the ground. Trees planted in sandy soil often suffer much from drought the first two or three years, the taproot then finds its way down to about 10 feet and reaching water the tree begins to thrive. It is of course best near the sea, but fine trees may be seen in places in Northern India, especially at Saharanpur and Umballa. Casuarina seems to coppice well, and undoubtedly is, in suitable localities, and sonsidering its extremely quick growth and the qualities of its wood, one of the most important trees we have for fuel and other plantations. 10s. 62	7
CEDRELA. Cedrela serrata, Royle, Meliacee. Syn.—C. Toona; Roxb. (Hook, Fl. Ind., i, 568, in part.) Vern.—Drawi, dalli, ddl, dauri, khishing, khinam, N.W. Him. A tree of the North-West Himalaya up to 8,000 feet. Heartwood light-red, even, but open-grained, fragrant. Annual rings distinctly marked by broad belts of numerous large pores. Wood used for the hoops for sieves and for bridges and for many purposes about Simla. The shoots and leaves are lopped for cattle	262
fodder. H 3181. Dúngagalli, Hazara, 6,000 feet	, ,

CEDRELA.

In the Monograph of the Meliaces published in 1878 by Casimir de Candolle, the species of Cedrela formerly grouped under the one head of Cedrela Tooda, Roxb., have been separately described.

They are thus distinguished:-

Ovary glabrous-

Leaflets petioled . **serata**, *Royle.* Leaflets subsessile . C. glabra, C. de Cand.

Ovary hairy

Leaflets acute at the base C. Toona, Roxb.

Leaflets round at the base C. microcarpa, C. de Cand.

In the Trees, Shrubs and Climbers of the Darjeeling District, three varieties were spoken of and separated as follows:

No. 1. Deciduous; flowering March; fruiting June; bark grey-brown, smooth, exfoliating; found in the plains on low land.

No. 2. Evergreen; flowering October-November; fruiting February and March;

bark dark-brown, rough, not exfoliating; found in the lower hills

up to 4,000 feet. No. 3. Evergreen; flowering June; fruiting November-December; bark light.
reddish-brown, extoliating in long flakes; found in the upper hills
from 5,000 to 7,000 feet and of great size."

No. 1 is C. Toona, Roxb: No. 2 probably C. microcarpa, C. de Cand: No. 3 probably C. glabra, C. de Cand. It would, however, have probably been better to describe No. 1 as deciduous in the cold season' and Nos. 2 and 3 as 'deciduous in the rains.' There is perhaps a fifth species.

They may also be distinguished as follows by the capsule:-

Capsule smooth . { capsule round . long, pointed Capsule covered with corky tubercles . C. Toona. C. microcarpa. C. glabra.

Of the Northern Bengal specimens which we have examined, E 360 and E 2333 will be C. glabra, while E 655, E 2332, E 3599, E 3619, and E 3623 will be C. microcarpa. Some of the Assam, Chittagong and Burma specimens are probably C. microcarpa.

No. B 3378 from the Salween, 2,000 feet, is probably C. multijuga, Kurs, i., 229.—Vern. Toungdama, BURM.; Nee, KAREN (Trade name, like the other Toon-woods, Thitiktado.) It has a light, soft, pink wood, with the wood of the same of th with the usual characteristic scent strongly perceptible, and structure resembling that of the other species of Toon, the pores being perhaps more scantily distributed.

Weight, 35.5 lbs. per cubic foot.

(Gamble's Addenda.)

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Cedrela Toona, Roxb.

THE TOON OF INDIAN MAHOGANY TREE; MOULMEIN CEDAR.

Vern.—Tún, túni, lún, maha nim, HIND.; Túni, tán, lúd, BENG.; Maha limbu, URIYA; Mahlun, SATPURAS; Drawi, PB.; Túni, bobich, labshi, NEPAL; Simai, LEPCHA; Poma, henduri poma, ASS.; Súli, múli, SALEM; Kal kilingri, NILGIRIS; Sandani vembu, TINNFVELLY; Tundú kempú gandaghei, KAN.; Nogé, belandi, COORG; Deodari, kúruk, MAR.; Chikado, tseetkado, MAGH; Shurúsbed, CHAKMA; Thitkado, BUD. BURM.

A large tree, about 50 to 60 feet in height, growing in the Sub-Himalaya in forests, Bengal, Burma and South India, ascending to 3,000 feet in the North-West Himalaya and in Sikkim to 7,000 feet.

Wood brick-red, soft, shining, even but open-grained, fragrant, seasons readily, does not split nor warp. Annual rings distinctly marked by a belt of large and numerous pores.

CEDRUS.

It is durable and is not eaten by white-ants; it is highly valued and universally used for furniture of all kinds, and is also employed for door panels and carving. From Burma it is exported under the name of Moulmein Cedar, and as such is known in the English market. It there fetches about Rs. 65 per ton, the cost of cutting and delivery being Rs. 44, according to Major Seaton. In North-West India it is used for furniture, carvings and other purposes. In Bengal and Assam, it is the chief wood for making tea-boxes, but is getting scarce on account of the heavy demand. The Bhutias use it for shingles and for wood-carving; they also hollow it out for rice pounders. It is, or rather used to be, for very large trees are now rather scarce, hollowed out for dug-out canoes in Bengal and Aysam. In Bengal, Assam and Burma it grows to a very large size, trees 20 feet girth with a height of 80 to 100 feet of clear stem being not uncommon in forests which have been only little worked like those in Dumsong and in some parts of the Chittagong Hill Tracts. At page of the Indian Forester, Vol. i., the cubic contents of four trees in the Reyang Valley, Darjeeling, are given as 211, 375, 720 and 400 cubic feet respectively; the third of these had a mean girth of 12 feet and a length of 80 feet, while the second had a girth of 20 feet. It is easily propagated from seed, but the seeds being very small and light, the seed-beds must be sheltered till the seedlings have well come on. It also coppices freely.

P 1191.	Madhopur, Punjab					•	35
H 8.	Simla, Punjab				• •	•	37
H 5.	Sirmur, Punjab .		•	•	•	•	• • •
O 214.	Garhwal, 1868 .		•	•	•	•	36
C 177.	Mandla, Central Prov	inces,	1871	•	•	•	3 7
E 360.	Tukdah, Darjeeling, 5	,000 fe	eet		•	•	34
E 2333.	Darjeeling, 6,000 feet					•	34
E 655.	Bamunpokri, Darjeelii	ng Te	rai	•	•		30
E 2332.	Sukna, Darjeeling, 2,0	oo fee	t	•	•	•	36
E 640.	Kámrup, Assam.	•		•	•		44
E 1266.	Tezpur, Assam .			•	•		34
E 1229.	Sibságar, Assam	•					31
E 712.	Chittagong .						-
D 1054.	Salem, Madras .					•	39
W 763.	South Kanara .	•				•	29
B 272.	Burma, 1867 .	•					35
В 803.	Tharrawaddi, Burma	•			•		38
No. 18.	Salem Collection						35
No. 10.	" " (marked	Chick	crassia	tab	ularis)		37

CEDRUS.

Cedrus Deodara, Loudon, Conifera.

DEODAR, HIMALAYAN CEDAR.

Syn.—Pinus Deodara, Roxb. (Fl. Ind., iii, 651.)

Vein.—Nakhtar Imansa, Afg.; Diar, deodar, dedwar, dadar, Hazara, Kashmir, Garhwal, Kumaun; Paludar, Hazara; Kelu, keo'i, kilar, kilei; Chenab to Jumna; Kelmang, Kunawar; Giam, Tibet.

A very large and tall tree, found in the North-West Himalaya, between 4,000 and 10,000 feet, extending east to the Dauli river, a tributary of the Alaknanda below the Niti Pass, in the mountains of Afghanistan and North Beluchistan.

CEDRUS.

Heartwood light-yellowish-brown, scented, moderately hard. In each annual ring the outer belt of firmer and darker coloured tissue is generally narrow, and the inner belt is not very soft but in exceptional cases and under certain conditions which have not yet been studied, the inner belt is soft and spongy (e. g., H 617). This peculiarity has nothing to do with the rate of growth or with the altitude, as fast-grown trees possess hard tissue in the spring wood. Medullary rays fine and very fine, unequal in width. No vertical resinous ducts, as in Pinus, but the resin exudes from cells which are not visible to the naked eye. On the edge of certain annual rings are frequently found concentric strings of dark-coloured pores or intercellular ducts, which are prominent on a vertical section as dark lines, and in the vicinity of which the wood is sometimes more resinous.

In common with most species of the Order, the Deodar has well marked annual rings which there is little, if any, reason to doubt, each replesent the growth of a year. More information has, perhaps, been collected on the subject of the rate of growth of Deodar than of any other species of Indian tree, though we have as yet no such complete series of trees of known age to deal with as were available at Nilambur for the question of the rate of growth of teak. The geographical range of Deodar, especially in altitude, is very wide, and this circumstance, considering that some specimens may be obtained from sheltered places in comparatively warm valleys, while others come from exposed and high situations, makes it doubtful whether much value can be attached to general deductions from data collected from many quarters, and whether it should not usually be the practice to take only for use in any forests, the experiments made on trees in that or neighbouring localities. But the experience we have hitherto gained is very valuable, and it will be best to put together the items of information available. In Brandis' Forest Flora of North-West and Central India, pp. 520 to 524, a large amount of information is collected, to which reference can be made. It is there stated that the Deodar forests may be classified in three great divisions, vis. :-

- 1st.—Those in a dry climate in the vicinity of the arid zone of the inner Himalaya, having usually the age of trees 6 feet in girth above 140 years;
- 2nd.—Those in the intermediate ranges and valleys, having 6 feet in girth for an age of between 110 and 140 years;
- 3rd.—Those in the outer ranges under the full influence of the monsoon and having the age of trees 6 feet in girth usually below 110 years.

Deodar wood is extremely durable, being by far the most durable of the woods of the Himalayan Conifers. It is the chief timber of North-West India and is used for all purposes of construction, for railway sleepers, bridges, and even for furniture and shingles.

ings per : of radius	inch •									lbs.
•••		Н	940.	Chenab						34
34	rings.	Н	902.	Siul Val	ley, Ch	amba .		•		32
23	,,	Н	900.	Ravi For	rests			•		36
II	"	Н	616.	Beas For				•		42
7.5	,,	Н	617.	Sutlej Fo						31
7`5 18	"	Н	ıć.	Cheog F	orest, S	Simla,	7,000	feet		41
7	21	Н	42.	Mahasu	Forest,	, Simla	8,00	o feet	•	35
		Н	3058.	,,,	,,,	33		,,	•	
10	33	Н	3096.	"	21	**		"	•	42
68										

Timbers.	PART
CELASTRUS:	CELAS TRUS. 265
Celastrus emarginatus, Willd., Celastrine E.	
Syn.—Gymnosporia emarginata, Roth. (Hook, Fl. Ind., i, 621.)	\ :
Vern.—Bali bhains, URIYA.	
A thorny shrub of Orissa, South India and Ceylon; common on dry laterite soils.	1
Wood white, hard, in structure resembling that of C. spinosus.	•
• C 3521. Khurda, Orissa.	
c. oxyphylla, Wall.	266
Syn.—Gymnosporia acuminata, Hoot f. (Hook, Fl. Ind., i, 619.) Vern.—Phugong, Lepcha.	
A large thorny shrub, found in the Sikkim Himalayas and Khásia	
Hills, up to 5,000 feet.	•
Wood white, hard, close-grained, with numerous white concentric bands, in structure resembling that of C. spinosus.	
É 3391. Lebong, Darjeeling, 5,500 feet.	
c. paniculatus, Willd.	267
Vern,—Mál kakni, Oudh, Kumaun; Kahundan, rangul, wahrangur, C. P.; Kujúri, Kol; Kujri, Sonthal; Chiron, Mal; Kanjuni,	
Bom.; Ruglim, LEPCHA.	
A scandent shrub, with yellow, corky bark, found on the outer	
Himalaya from the Jhelum to Assam, ascending to 4,000 feet, in Eastern Bengal, Behar, South India and Burma.	
Wood pinkish-yellow, soft.	
E 2334. Tukdah, Darjeeling, 5,000 feet 51 C 3448. Barao and Reserve, Palamow, Chutia Nagpur	
. senegalensis, Lam.	z68
Syn.—C. MONTANA, Roxb. (Fl. Ind., i, 620); GYMNOSPORIA MONTANA,	200
Lawson (Hook, Fl. Ind., i, 621.)	
Vern.—Sherawane, Trans-Indus; Talkar, dajkar, mareila, kingaro, kharái, Pb.; Balkal, gajachinni, C. P.; Mál, kangoni, Bom.; Danta, babur, Gond.; Dhatti, Bhill; Bharatti, yekal, Mar.; Danti,	
dantáusi, pedda chintú, TEL. A tall spinescent shrub, inhabiting the northern dry and intermediate	
zones of North-West India, ascending to 4,000 feet, Central India and	
the drier parts of the Peninsula. Wood pinkish-white, soft but close-grained; no heartwood; no	
annual rings; durable, but not used.	
C 1162. Ahiri Reserve, Central Provinces	
S. spinosus, Royle.	260
Syn.—Gymnosporia Royleana, Wall (Hook, Fl. Ind, i, 620.)	3
Vern.—Dsaral, TRANS-INDUS; Kandu, kandiári, pataki, lei, phúpari, badlo, kadewar, PB.; Kúra, bagriwála darim, gwála darim, NW. P.	
A thorny shrub of the outer North-West Himalaya.	
Wood lemon-coloured, hard and close-grained, with numerous white, concentric bands. It cuts like boxwood, for which it may become a	
substitute. It deserves attention as possibly suitable for carving and	
engraving.	
1 91.3 Cart 11an 6 7 1 an 1 an 1	
P 2032. Suni, Simla, 3,000 feet	

CEPHALOS
TACHYUM.

CELTIS.

270	
-,, 7	

Celtis australis, Linn., URTICACEE.

Vern. - Kharak, Simla, Kumaun; Tagho, takham, Afg.

A moderate sized deciduous tree, found in the Suliman and Salt Ranges in the Himalayas from the Indus to Bhutan, ascending to 8,500 feet, and in the Khásia Hills.

Wood grey or yellowish-grey, with irregular streaks of darker colour. It is tough and strong, and is used for oars, whip handles and for other purposes requiring toughness and elasticity. The tree is largely planted about villages in the North-West Himalaya for shade and fodder.

27Í

C. caucasica, Willd.

Vern. - Batker, PB.

A moderate sized tree, found in Afghanistan, Beluchistan, Salt Range, Hazara and Kashmir.

Wood light-yellow, hard to very hard. Structure resembling that of C. australis.

272

C. tetrandra, Roxb. (Fl. Ind., ii, 63.)

Vern. - Kúmsúm, sungsúm, LEPCHA; Haktapatia, Ass.

A tall tree of the outer Himalaya, from Kumaun eastwards, and the Western Ghâts.

Wood greyish-white, moderately hard. Used in Assam for planking and canoes.

E 669. Bamunpokri Forest, Darjeeling Terai . 36 E 707. Great Rangit Valley, Darjeeling . 37

273

C. Wightii, Planch.

Vern.—Vella-thorasay, TAM.; Tella-káká-mushti, Tel.

A small evergreen tree of the mountains of South India, and the Andaman Islands.

Wood greyish-white, very hard, close-grained. Annual rings indistinctly marked by a narrow belt without pores.

CEPHALOSTACHYUM.

274

Cephalostachyum capitatum, Munro, Graminem.

Vern .. - Gobia, gopi, NEPAL; Payong, LEPCHA; Sili, sullea, KHASIA.

Found in Sikkim and the Khásia Hills.

This bamboo has stems 12 to 30 feet, thin, yellow, semi-scandent, strong, with long internodes of about 2½ feet; used for bows and arrows by the Lepchas. It is often gregarious. It flowered in Sikkim in 1874. (Gamble.)

E 1353. Dumsong, Darjeeling.

Timbers. · [PART V
	CERIOP
Cephalostachyum latifolium, Mund. A species with large leaves, found in Bhutan.	275
C. pallidum, Munro. Vern.—Beti, Ass. This bamboo has shrubby stems. It grows in the Mishmi Hills and in Ava.	,276
C. pergracile, Munro. Vern.—Tinwa, kengwa, Burm. A bamboo of Burma; common in upper mixed forests; often gregarious. It has stems 40 to 50 feet. B 1317. Toungoo.	277
CERATONIA.	•
Ceratonia siliqua, Linn., Leguminosæ. The Locust-tree; the Carob tree; Algaroba of Spain. Vern.—Kharnúb, núbti (the pods), Pp. A slow-growing evergreen tree, indigenous in Spain and Algeria, the eastern part of the Mediterranean region, and in Syria. Wood hard, heavy, excellent as fuel, and valued for cabinet work. (Brandis.) No. 3266. Saharunpur.	278
CERBERA.	
Cerbera odollam, Gaerin., APOCYNEE. Vern.—Dabúr, dhakur, Beng.; Kada-má, katarali, Tam.; Gon kadura, Cingh; Ka-lwah, Burm. An evergreen tree of the coasts of India and Burma. Wood grey, very soft, spongy. Annual rings marked by a sharp line. It is only occasionally used for firewood.	279
E 400. Sundarbans	
· CERIOPS.	
Ceriops Candolleana, Arnott., RHIZOPHOREE. Vern.—Kirrari, kiri, chruri, SIND.; Goran, BENG.; Madá, AND. A small, evergreen tree, met with on the muddy shores and tidal creeks of India and the Andaman Islands. Wood red, hard; used in Sind for the knees of boats and other purposes; in Lower Bengal for house-posts and for firewood.	280
B 1985. Andaman Islands (<i>Kurz</i> , 1866) 63 E 3700. Sundarbans	
C. Roxburghiana, Arnott. Vern.—Garán or Ghorán, Beng.; Kapyaing, Burm. A large shrub of the coasts of Chittagong down to Tenasserim. (Kurs.) Weight of the wood, 46 lbs. per cubic foot.	281

CHLORC-XYLON.

CHÆTOCARPUS.

Chætocarpus castaneæcarpus, Thw., Euphorbiaceæ.

Vern.—Búlkokra, BERG.; Haddoka, CINGH.

A moderate sized tree, found in the Khásia Hills, Eastern Bengal, Burma, the Andaman Islands, and Ceylon.

Wood light-red, moderately hard, close-grained; used in Ceylon for building.

No. 34. Ceylon Collection (C. pungens).

, lbs.

CHÍCKRASSIA.

283

Chickrassia tabularis, Adr. Juss., Meliaceæ

THE CHITTAGONG WOOD.

Syn.—Swietenia Chickrassa, Roxb.

Vern.—Chikrassi, Beng.; Boga poma, Ass.; Aglay, agal, eleutharay, TAM.; Madagari vembu, TEL.; Ganti malle, SALEM; Dalmara, KAN.; Pabba, MAR.; Maín, Hyderabad; Saiphra, sey barasi, Magh; Chegarasi, Chakma; Yimmah, yengma, Burm.; Arrodah, And.

A large tree, native of Eastern Bengal, South India, and Burma. Heartwood hard, varying from yellowish-brown to reddish-brown, with a beautiful satin lustre, seasons and works well; sapwood of a lighter colour. The wood is used for furniture and for carving.

								IDS.	
E 1260.	Tezpúr, Assam	•	•		•	•		40	
E 2197.	Nowgong, Assam	•	•	•	•	•	•	45	
E 1401.	Chittagong .		•	•	•	•		49	
W 764.	South Kanara	•	•	•	•	•	•	43	
	North Kanara	•		•	•	•	•	44	
	Burma (1862)	•	•	•			•	52	
Е 3689.	Chittagong			•	•			55	
E 3678.	Sukna Forest Dep	Ôt						54	

The last specimen is a wood of a light red lustrous colour, having the structure of Chickrassia tabularis, a tree, which has not as yet been described, from Sikkim.

CHLOROXYLON.

284

Chloroxylon Swietenia, DC., Meliaceæ.

SATIN WOOD.

Syn,—SwietLnia Chloroxylon, Roxb. (Fl. Ind., ii, 400.)

Vern.—Behra, girya, behru, bihri, C. P.; Sengel, sali, Kol; Bharhúl, KARWAR; Bhira, GOND; Bhirwa, BAIGAS; Múdúdad, TAM.; Billu, bilgu, Tel.; Burús, purúsh, TAM.; Behru, URIYA; Halda, bheria, MAR.; Huragalu, MYSORE; Burute, mal burute, CINGH.

A moderate sized deciduous tree, found in Central and South India, and Ceylon.

Wood very hard, yellowish-brown, the inner wood of a darker colour, but no distinct heartwood, with a beautiful satiny lustre; seasons well.

Annual rings distinct.

C

It is used for agricultural implements, cart-building, furniture, and picture frames. In Madras it is prized for ploughs and oilmille, and is found to stand well under water. It has been tried as a substitute for boxwood in engraving, but has not been found suitable;

	Kimbers.	•		PART VII
•		•		CINCHONA
it is however good for turnin work, and the backs of brush	g. It is imported es.	into England		
C 1153. Ahiri, Centra C 1412. Seoni, Centra C 2742. Jamui, Berar C 1239. Gumsúr, Mac C 1304. C 3443. Seemah Rese. D 1069. Madras. D 1069. North Arcot No. 20. Salem Collect No. 52. Ceylon Collect	Il Provinces		. 54 . 49 . 52 . 56 . 56 . 56 . 57 . 61 . 65	
СНО	NEMORPHA.		• •	•
Chonemorpha macrophylla Syn.—Echites Macrophy Vern.—Gar bardero, Hind. A large climber with milky	1, G. Don., APOC LLA, Rozk. .; Yokchiounrik. LEP	сна. ; <i>Harki</i> , S		285
CHRY	SOPHYLLUN	ī. ·		
Chrysophyllum Roxburgh THE STAR APPLE. Syn.—C. ACUMINATUM, R.	•			286
Vern.—Petakara, Beng.; Lawálú, Cingh.; Thani An evergreen tree of Beng Wood white, close-grained radial lines between the nume for building. No. 48. Ceylon Collect	·			
•	•		• 39	
-	NCHONA.			
YELLOW BARK. Cultivated in Sikkim at m Wood reddish-grey, mode in short radial lines. Medull It yields perhaps the mos alkaloids, among which quini E 1358. Rangbi, I E 3158.	noderate elevations erately hard, ever ary rays fine, close st valuable of the ne forms half to fo	n-grained. Po ely packed. Cinchona bar ur-fifths.		287
C. officinalis, Linn. Loxa or Crown Barr Cultivated at high elevation, but not extensively.	ς,		and in Sik-	288

CINNAMO-MUM.

Wood yellowish-grey, similar in structure to that of C. Calisaya. Its bark is righ in alkaloids, of which more than one-half is quinine.

E 1356. Rangbi, Darjeeling, 3,700 feet.

289

Cinchona succirubra, Pavon.

RED BARK.

Cultivated on the Nilgiris and other hills of South India, at the plantations of Rangbi and Poomong in Sikkim, on the hills east of Toungoo, in Burma, and in parts of the Satpura Range in Central India.

Wood yellow, moderately hard. Pores small in radial lines; me-

dullary rays closely packed, fine and very fine.

This species thrives at a lower elevation than the others, but is comparatively poor in quinilie, though rich in cinchonine and cinchonidine. From this species is chiefly derived the "Cinchona Alkaloid," which is now largely manufactured at the Government Plantation of Rangbi.

E 1357. Rangbi, Darjeeling, 3,700 feet.

CINNAMOMUM.

200

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Cinnamomum glanduliferum, Meissn., LAURACEE.

THE NEPAL CAMPHOR WOOD.

Vern.—Malligiri, marisgiri, Nepal; Rohu, Lepcha; Gunserai, Mechi, Ass.; Gundroi, Cachar.

A large tree of South Himalaya from Kumaun eastwards, Assam,

the Khásia Hills, and Sylhet.

Wood rough, pale-brown, highly scented, with a strong smell of camphor when fresh cut; has a certain lustre. It distantly resembles that of an Albizzia on a vertical section, but is rougher; it is soft to moderately hard, even-grained. It is durable, easily worked, is not touched by insects. Used in Assam for canoes and boat-building; in Sikkim for boxes, almirahs, and other articles, also for planking. It is being tried for sleepers.

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Ŀ	070.	Dulka Jhar, Darjeeling	1 erai	•	•	38
E	2413.	Tista Valley, Darjeeling	•	•		37
		Eastern Duars, Assam.	•			39
		Kámrúp, Assam	•			34
E	2304.		•	•		40
E	2187.	Nowgong, Assam .	•	•		44

201

C. obtusifolium, Nees.

Syn.-LAURUS OBTUSIFOLIA, Roxb. (Fl. Ind., ii, 302.)

Vern.— Tespat, ramtespat, kinton, Beng.; Bara singoli, Nepal; Nupsor, Lepcha.; Patichanda, Ass.; Dupatti, Mechi; Krowai, Magh.; Loolengkyau, Burm.

An evergreen tree, with grey aromatic bark, quarter inch thick, of the outer North-East Himalaya, ascending to 7,000 feet, of Eastern Bengal, Burma, and the Andaman Islands.

Wood reddish-grey, moderately hard, shining, mottled on a vertical section by the medullary rays, the pores containing a gummy substance which exudes copiously on the wood being wetted.

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a paucifloru	m. Nee						MUM
inglatterdop, K	HÁSIA.	•	•		•		292
n the Assam V	/alley, Kh	ásia Hill	s, and	Sylhe	t.	dial sec	
dullary rays;	rough, har	d.	mothe	u 011	a 10	idiai sec-	1
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manthin, BURM			•				
		shining,	mode	rately	har	d, highly	•
plentiful at Tav	oy and M	ergui, wh	ere it i	is used	d for		-
Tavoy .	•	. •				43	
"	•	• •	•	•	•	36	
			urz, i	i, 289)), of	Aperu-	294
	Brandis,	<i>383.)</i>					
•	serim.						
nge-brown, so	ented. 200	aerately	hard, e	oily to	the	touch. It	
wood of C.	glandulife	eruma in	structi	ıre; d	ural	ole, used	
	163.					lbs.	
Tavoy .	: .	•	•	•	•	43	
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	cerim , fou	nd bu sh	a lata	N/ 1		34	295
ce.	seriir, lou	nd by th	e iale	1V1 F. L	.ee ı	n Mergui,	
soft, strongly	scented.						•
Tavoy .	•					108. 41	
						IL.	296
Burma (1867)			•			24	
33 33	•	• •	•	•	•	40.	
(Tavoy <i>Wallid</i>	:h,) .	• •	•	:	:		
wood specime	ns are all	Lauracea	e and	proba	bly		
	soft, and a	aromatic.					
~							297
	ees (Wicht.	le + ra) * C	ACCTA	R1.	CKaren it	
AURUS CASSIA,	Roxb. (Fl. 1	(nd., ii, 29	7.)	·			
			anti, F	lind.;	Cho	ta sinkoli,	
te sized everg	reen tree o	of the Hi	malay	a, occ	urs	sparingly	
to the Sutlej;	common t I. Khásia l	hence eas Hills, and	tward I Burn	s betw na.	een	3,000 and	
lish-grey, split	s and war	os, mode	ately	har d,	close	e-grained,	
d; not used.						lhe	
		• ;	•	•		40	•
	Hazara, 4	1,000 leet 3ar. 4.000	feet	•	٠.	25	•
				•	•	42	
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	inglatterdop, Kn the Assam Vared, very are dullary rays; Khásia Hills manthin, Burma South Tenasite with a pin elentiful at Tavoy """ """ """ """ """ """ """	treed, very aromatic, be dullary rays; rough, har Khásia Hills, 5,000 fee manthin, Burm. South Tenasserim. To with a pink tinge, bentiful at Tavoy and M Tavoy "" "" "" "" "" "" "" "" ""	inglatterdop, Khista. In the Assam Valley, Khista Hillstered, very aromatic, beautifully idullary rays; rough, hard. Khista Hills, 5,000 feet manthin, Burm. Is South Tenasserim. It with a pink tinge, shining, silentiful at Tavoy and Mergui, who Tavoy "Tavoy "Seiana, Bl. (Brandis, 383.) waway, Burm. Is South Tenasserim. Inge-brown, scented, moderately wood of C. glanduliferum in ling and shingles. Tavoy "Inkosi, Burm. In South Tenasserim; found by the ce. Is soft, strongly scented. Tavoy "Inkosi, Burm. In South Tenasserim; found by the ce. In South Tenasserim. In South Tena	in the Assam Valley, Khásia Hills, and tred, very aromatic, beautifully mottle dullary rays; rough, hard. Khásia Hills, 5,000 feet manthin, Burm. A South Tenasserim. Tavoy "Tavoy "Seiana, Bl. (Brandis, 383.) maway, Burm. A South Tenasserim. ound by the late rec. Soft, strongly scented. Tavoy "" Tavoy "" Tavoy "" Tavoy "" Tavoy "" Tavoy "" Tavoy "" Tavoy "" Tavoy "" Tavoy "" Tavoy "" Tavoy "" Tavoy Burma (1867) "" "" Tavoy "" Tavoy "" Tavoy "" Tavoy "" Tavoy "" Tavoy Burma (1867) "" "" Tavoy	inglatterdop, KHASTA. In the Assam Valley, Khásia Hills, and Sylhetered, very aromatic, beautifully mottled on dullary rays; rough, hard. Khásia Hills, 5,000 feet manthin, Burm. In South Tenasserim. It with a pink tinge, shining, moderately plentiful at Tavoy and Mergui, where it is used. Tavoy """ "Parthenoxylon, Meissn. (Kurz, ii, 289) Isiana, Bl. (Brandis, 383.) Israway, Burm. In South Tenasserim. Inge-brown, scented, moderately hard, oily to wood of C. glanduliferum in structure; dling and shingles. Tavoy "" "Nosit, Burm. In South Tenasserim; found by the late Mr. Lee. In South Tenasserim. In South Tenass	in the Assam Valley, Khásia Hills, and Sylhet. tered, very aromatic, beautifully mottled on a radullary rays; rough, hard. Khásia Hills, 5,000 feet manthin, Burm. South Tenasserim. te with a pink tinge, shining, moderately hardentiful at Tavoy and Mergui, where it is used for Tavoy Parthenoxylon, Meissn. (Kurz, ii, 289), of siana, Bl. (Brandis, 383.) traway, Burm. South Tenasserim. nge-brown, scented, moderately hard, oily to the wood of C. glanduliferum in structure; dural ling and shingles. Tavoy "" "Nosoth Tenasserim; found by the late Mr. Lee if the ce. soft, strongly scented. Tavoy "" Tavoy Burma (1867) "" "" "Tavoy Wallich,) wood specimens are all Lauraceæ and probably they are light, soft, and aromatic. ess. CINNAMON. ALBIFLORUM, Nees (Wight, L.c., t, 140); C. Cassia, Bl.; Aurus Cassia, Roxb. (Fl. Ind., ii, 297.) dichnin, kirkiria, kikra, sinkamı, silkanti, Hind.; Chazia, Chaster, Bengal, Khásia Hills, and Burma. lish-grey, splits and warps, moderately hard, closed; not used. Hazara, 4,000 feet Dungagalii, Hazara, 4,000 feet Bagiyar Forest, Jaunsar, 4,000 feet Bagiyar Forest, Jaunsar, 4,000 feet Bagiyar Forest, Jaunsar, 4,000 feet	inglatterdop, Khásha. In the Assam Valley, Khásia Hills, and Sylhet. In the Assam Valley, Khásia Hills, and Sylhet. It the Assam Valley, Khásia Hills, and Sylhet. Khásia Hills, 5,000 feet South Tenasserim. It with a pink tinge, shining, moderately hard, highly plentiful at Tavoy and Mergui, where it is used for building. Ibs. Tavoy 43 Tavoy 43 Parthenoxylon, Meissn. (Kurz, ii, 289), of Apprusiana, Bl. (Brandis, 383.) Braway, Burm. South Tenasserim. Inge-brown, scented, moderately hard, oily to the touch. It wood of C. glanduliferum in structure; durable, used ling and shingles. Tavoy 43 Nouth Tenasserim; found by the late Mr. Lee in Mergui, ce. Soft, strongly scented. Burma (1867) Burma (1867) 10 10 10 10 10 10 10 10 10 1

LEMATIS.

CITRUS.

298

Citrus Aurantium, Linn., RUTACEE.

THE ORANGE.

Vern.—Narangi, naringi, Hind.; Kamla nibu, Beng.; Suntala, Nepal; Kitani, Tam.; Kittali, Tel.

Cultivated in most parts of India, especially in Sikkim and Sylhet. Wood yellowish-white, moderately hard, close and even-grained. E 3371. Rajabhatkhawa, Western Dúars.

200

C. decumana, Willd.

THE SHADDOCK.

Vern.—Batavi nebu, mahá níbu, chakotra.

Introduced into India from Java; cultivated in most tropical countries.

300

C. medica, Linn, Var. Limetta.

THE CITRON, LEMON, LIME.

Vern.—Bijaura, bara nimbu, HIND.; Begpura, korna nebu, lebu, nebu, BENG.; Jambira, SANS.

Wild in Burma, Chittagong, Sitakund Hill, Khasia, foot of the Himalaya, ascending to 4,000 feet, and in the hot valleys of the Sikkim, ascending to 4,000 feet.

Wood white, moderately hard.

E 3348. Darjeeling.

CLEISTANTHUS.

301

Cleistanthus myrianthus, Kurz (ii, 370), Euphorbiace E.

Vern .- Mo-man-tha, BURM.

A moderate sized evergreen tree of the tropical forests of Burma and the Andaman Islands.

Wood moderately hard, reddish-grey.

lbs.

B. 2474. Andamans (Kurz, 1866)

41

CLEMATIS, Linn.

302

Of this and the neighbouring genus, Naravella, 22 species occur in India. They are distributed almost all over India: 11 are found in the North-West Himalayas, 14 in the Eastern Himalaya and Khásia Hills, 2 in Central India, 4 in the Dekkan, 4 on the Western Coast, and 10 in British Burma.

The commonest kinds in the North West Himalaya are C. grata, Wall.; C. nutans, Royle, and C. Orientalia, Linn., with white or yellowish-white panicles of flowers; C. montana, Ham., with large while starshaped flowers, and C. barbellata. Edgw., with dull purple ones, common in the hill forests; while C. Buchanania, DC., is conspicuous for its woolly leaves and large soft tomentose bell-shaped flowers. In the Eastern Himalaya this latter species is the most common, with G. grewize flora, DC., covered all over with golden pubescence, and the beautiful pink-flowered C. Smilacifolia, Wall, C. gouriana, Rozb., and Naravelia zeylanica, DC., are common in Bengal, Central India, the Dekkan, and

Timbers.	PART VI
•	COCCULUE
in Burma, where the second species of Naravelia (N. laurifolia, Wall.) is also found. These climbers are all very ornamental, but they have little or no value, though Kurz says that the "stems of the species from Burma while fresh are often used for ropes, and are very strong." Mathieu, Fl. For., p. 9, gives the weight at 24 to 36 lbs. per cubic foot for C. Vitalba, Linn, the European Clematis or Traveller's Joy.	
Clematis barbellata, Edgew. (Hook. Fl. Ind., ei. 3) RANUNCULACEE. • A woody climber of the western temperate Himalaya, Garhwal and Kumaun.	303 °
H 2852. Mahasu, Simla, 8,000 feet. H 3156. Theog, Simla, 7,000 feet.	
C. Buchanania, DC. (Hook. Fl. Ind., i. 6; Kurz, i. 17; Gamble, i.) A large woody climber, occurs throughout the temperate Himalaya at 6,000 feet.	304
H. 2838. Simla, 6,000 feet. C. grata, Wall. (Hook. Fl. Ind., i. 3.) Vern.—Ghantiali, Hind. A climber of the sub-tropical and temperate Himalaya at 2,000 to 3,000 feet.	305
H 2820. Simla, 6,000 feet.	
C. montana, Ham. (Hook. Fl. Ind., i. 2; Gamble.) Vern.—Ghantiali, Hind. A woody climber of the temperate Himalaya, from the Indus to the Bramaputra, ascending to 12,000 feet, always above 8,500 in Sikkim, and of the Khásia hills above 4,000 feet. H 2851. Mahasu, Simla, 8,000 feet.	306
€LERODENDRON.	
Clerodendron Colebrookianum, Wall., VERBENACEE. Vern.—Kadungbi, LEPCHA. A small evergreen tree with silvery-grey bark of the Sikkim and Khásia Hills, 3,000 to 6,000 feet. Wood grey, soft.	307
E 2401. Tukdah Forest, Darjeeling, 5,000 feet . 29	
•	
COCCULUS.	
Cocculus laurifolius, DC. Menispermace. Syn.—Menispermum laurifolium, Roxb. (Fl. Ind., iii, 815.) Vern.—Tilpars, kakra, Hind. A moderate sized evergreen tree of the outer Himalaya from the Ravi to Nepal, ascending to 5,000 feet Wood greyish-white, soft.	308
H 2939. Near Suni, Sutlej Valley, 3,000 feet	•

COCHLOSPERMUM.

Cochlospermum Gossypium, DC., Bixinee.

Syn. - Bombax Gossypium, Roxb. (Fl. Ind., iii, 169.)

Vern.—Kumbi, gabdi, ganiar galgal, gaugal, HIND.; Hupu, Kol.; Gangam, Gond; Kontopalas, URIYA; Gungu, kong, kandu-gogu, Tel.;; Tanaku, kongilam, TAM.; Helta tovare, KAN.; Chima-punji, MAL.; Ganeri, BHIL; Ganeri, gunglay, MAR.

A small deciduous tree, with short, thick, spreading branches; grows in forests at the base of the North-Western Himalaya, from the Sutlei eastward, in Central India, Deccan, and Prome district, and in Burma; commonly planted near temples.

It yields a clear white gum (Katira), which, according to Baden-Powell, is used in shoe-making. It may be used as a substitute for gum tragaranth. There is very little demand for gums of these classes.

Wood extremely soft, grey; no heartwood,

C 1141. Ahiri Reserve, Central Provinces . 17

COCOS.

310

Cocos nucifera, Linn., Palmæ.

THE COIR OF COCOA-NUT FIBRE; PORCUPINE WOOD.

Vern.—Narel, nariyal, Hind.; Narakel, Beng.; Tenna, tenga, Tam.; Nari kadam tenkaia, kobbari, Tel.; Thenpinna, kinghena, tenngina, Kan.; Tenga, Mal.; Pol, Cingh.; Ong, Burm.; Jadhirdah, And.

A pinnate-leaved palm, with annulate, often curved stem; culti-

vated throughout tropical India, particularly near the sea-coast.

Outer wood close-grained, hard, and heavy. Vascular bundles black or dark-purple, closely packed in the outer part of the stem on horizontal section, circular or uniform, enclosing vessels and cells.

The wood is commercially known as 'Porcupine wood'; it is used for rafters and ridge poles, house-posts and other building purposes; for spear handles, walking-sticks, and fancy work.

								ihs.
E 417.	Sundarbuns		•	•	•	•		40
	South Kanara					•	•	55
W 868.			•	•	•	•	•	
	Burma .		•	•	•	•		52
No. 72.	Cevlon Collection	าก					_	70

COFFEA.

311

Coffea arabica, Linn., Rubiace E.

Vern.—Bun (the berry), Kahwa (the same roasted and ground.)

A shrub indigenous in Abyssinia and Soudan, cultivated, since the fifteenth century, in Arabia, and introduced thence to India. It has been cultivated in many parts of India, but on a large scale only in Mysore, Coorg, the Western Ghats, and Ceylon. It is occasionally found running wild in the forests. Growth moderate.

Wood white, moderately hard, close-grained. Pores very fine and

extremely fine; medullary rays very fine, numerous.

CORDIA:

COLEBROOKIA.

Colebrookia oppositifolia, Sm., LABIATE.

Vern.—Shakardana, Trans-Indus; Phis bekkar, Salt Range; Dúss, sampni, Jhelam; Sááli, Chenab; Dúss, Ravi; Briali, basuti, Beas; Barmera, Sutlej; Dulshat, Kumaun; Dosál, Nepal.

A shrub of the outer Himalaya, from the Indus to Bhutan, ascend-

ing to 4,000 feet.

Wood greyish-white, moderately hard, close-grained. It is used for gunpowder charcoal, and the leaves applied to wounds and sores. (Stewart.)

H 3046. Below Komharsen, Sutlej Valley, 2,500 feet 46

Construction and Railway purposes—Timbers suitable for. See

Coppice woods-A list of. See APPENDIX.

CORCHORUS.

Corchorus capsularis, Linn., and C. olitorius, Linn., TILIACEE.

THE JUTE OF PAT FIBRE.

The reeds or dried stems after the bark has been removed are used for a variety of purposes, and Royle says they are nearly as valuable to the cultivator as the fibre itself. They are straight, brittle, and readily combustible, and are largely consumed in the preparation of the charcoal used for gunpowder and in the manufacture of fire-works. They are also largely used as tinder in the preparation of native matches. They are formed into the large shady enclosures within which the betel-pepper leaf is cultivated; and from which was derived the idea of the modern orchid-house. One of the most useful purposes to which the jute cane is put is the burning or charring of the hulls of native boats to destroy or expel the insects which may have commenced their depredations upon the timber. For this purpose the boat is raised to a certain height above the ground, and a few bundles of the jute canes are ignited below. Tied in bundles, they are also used for torch-light processions during the Lukhi Pújah; Europeans use them as pea-stakes.

CORDIA.

Cordia fragrantissima, Kurz (ii, 207.), Boraginem.

Vern .- Toungkalamet, BURM.

A deciduous tree of Burma, chiefly in the hills of Martaban and Tenasserim.

Wood moderately hard, reddish-brown with darker streaks, beautifully mottled, has a fragrant scent; should be better known. It has a handsome grain, and its fresh, fragrant odour makes it very pleasant to use. Pieces sent to London for sale in 1878 realized £4-10 per ton.

В	285.	Burma (1867)				. 48	3.
В	1428.	Burma (1867) Tharrawaddy, Burma	•	•	•	. 51	ľ

·312

•

313

CORDIA.	1
315	Cordia Macleodii, Hook. f. and Th.
·	VernDhengan, dhaman, dháian, dewan, dahi, dahipalás, dihgan,
	HIND.; Reuta, porponda, Kol; Bharwar, belaunan, KARWAR; Jugia, Sonthal; Dhaiwan, Sattara; Daiwas, dhaim, bhoti, Mar.; Bot, Gond; Lauri kassamár, Kurku; Gadru, Ajmere.
·	Bot, GOND; Lauri kassamár, Kurku; Gadru, Ajmere.
•	A midding sized deciduous tree of Central and South India, and the Dekkas?
	Heartwood light-brown, beautifully mottled with darker veins, even-
·	grained, very hard, strong, tough, and elastic; seasons well and works
	easily. It is used for furniture, picture-frames, and other ornamental work; also for fishing-rods, which are said to be excellent. It deserves
	to be better known and more used.
	, lbs.
	P 3219. Nagpahar, Ajmere
	C 180 Mandla, Central Provinces (1870) 53
	C 2985. Jubbulpore (1863) 50
	C 831. Bairagarh Reserve, Berar 49 C 3455. Betlah Reserve, Palamow
	C 3455. Bettan Reserve, I atamow
316	C. Myxa, Linn.,
310	VernLasora, bhokar, gondi, HIND.; Laswara, PB.; Lesúri, gidúri
	SIND; Borla, baurala, KUMAUN; Bohari, buhal, BENG.; Embrúm KOL: But. SONTHAL: Boeri, NEPAL: Nimat. LEPCHA: Dobakari
	MECHI; Gondi, URIYA; Vidi, verasu, TAM.; Pedda boku, virgi, nak
	KOL; Buj, Sonthal; Boeri, Nepal; Nimat, Lepcha; Dobakari Mechi; Gondi, Uriya; Vidi, verasu, Tam.; Pedda boku, virgi, nak kera, irki, iriki, Tel.; Semar, goden, gondan, Mar.; Chotte, Kan. Selte, Gond; Silu, Kurku; Lasséri, Baigas; Lolú, Cingh.; Chaine
	MAGH; Inanat, toung thanat, BURM.
	A moderate sized deciduous tree, met with in the Salt Range, sub- Himalayan tract, from the Chenab to Assam, ascending to 5,000 feet
	the Khasia Hills, Bengal, Burma, Central and South India.
c	Wood grey, moderately hard. In spite of its softness, it is fairly
	strong, and seasons well, but is readily attacked by insects. It is used for boat-building, well-curbs, gun-stocks, and agricultural implements
	in Bengal for canoes. It might be tried for tea-boxes. It makes a
	excellent fuel.
	lbs.
	O 250. Garhwal (1868)
	C Abi-i Danama Control Durainan
	E 642. Rakti Forest, Darjeeling Terai 28
	E 2394. Bamianpokri, Darjeeling Terai 28
	E 714. Chittagong 23
	B 2543. Birma (1862)
	No. 42. Salem Collection (marked Spondias mangi-
	fera)
217	C. Rothii, Röm and Schult
317	Syn.—C. ANGUSTIFOLIA, Roxb. (Fl. Ind. i. 595.)
	Vern.—Gondi, gondni, gundi, HIND.; Liár, liái, SIND.; Narvilli, TAM.
	A small tree of the dry zones of North-West and South India.
•	Wood grey, compact, hard. Used for fuel, in Sind for building, an in Cutch for agricultural implements.
	lbs.

•	CORNUS
ordia vestita, Hook. f. and Th.	.318
Syn.—Gynaion vestitum, DC.	
Vern.—Kúmbi, karúk, PB.; Kúm paimán, pin, indak, chinta, ajánta, bairula, berula, HIND. A small deciduous tree of the sub-Himalayan tract, from the Jhelum to the Sarda River, and of Oudh.	• ?.
The wood has the same structure and appearance as that of C. Macleodii, except that the concentric lines are occasionally interrupted; strong; used for wheel and well work.	
O 231. Garhwal (1868)	.•
CORIARIA.	ı
oriaria nepalensis, Wall, Coriarez.	319
Vern.—Masúri, makola, HIND.; Raselwa, archarru, pajerra, SIMLA; Bhojinsi, NEPAL. A deciduous shrub or small tree of the outer Himalaya from the	
Indus to Bhutan, ascending to 8,000 feet in the North-West and to 11,000 feet in Sikkim. Wood grey, hard, beautifully mottled; no heartwood. It takes a good polish, and is very handsomely marked; it might be used for boxes and small articles. At present it is only used for firewood, and is often used as such about Simla.	
H 68. Mashobra, Simla, 7,000 feet	•
" CORNUS.	
ornus capitata, Wall, CORNACEE. Syn Benthamia fragifera, Lindley. Vern Thammal, tharbal, tharwar, thesi, bamaur, bamora, Hind.; Tumbúk, Lepcha. A small deciduous tree of the Himalaya from the Beas to Bhutan, between 3,500 and 8,000 feet, and of Khásia Hills. Wood whitish, with reddish-brown heartwood, warps in seasoning,	320
very hard, close-grained. It is used only for firewood. lbs.	
H 78. Mashobra, Simla, 7,000 feet	
macrophylla, Wall. Vern.—Kasir, kachir, haleo, allian, haddu, harru, nang, kandara, kaksh, kachur, kochan, kagsha, ruchia, Hind.; Patmoro, Nepal. A small tree of the Himalaya from the Indus to Bhutan, between 3,000 and 8,000 feet.	321
F 81	

RYPHA.	
, , ,	Wood pinkish-white, hard close-grained; warps badly, and has an unpleasant scent; gives good gunpowder charcoal.
<i>.</i> " •	H 84. The Glen, Simla, 6,000 feet
322	Cornus oblonga, Wall. Vern.—Kagshi, Sutlej; Dab, Kunawar; Kasmol, bakár, ban-bakár, halá, Hind. A small tree of the outer Himalaya from the Indus to Bhutan, between 3,000 and 6,000 feet, of the Martaban Hills, Burma, between 4,000 and 7,000 feet. (Kurz.) Wood pinkish-white, hard, even-grained; warps and has an unpleasant scent. Ibs. H 150. Sainj, Giri Valley, 4,000 feet
q	H 3094. Tarwa Forest, Julung, Simla, 4,000 feet.
	CORYLUS.
323	Corylus Colurna, Linn., Curlliferæ.
	Syn.—C. LACERA, Wall. Vern.—Urni, JHELAM; Winri, wiri, warawi, wuriya, thangi, thankoli, KASHMIR and CHAMBA; Jangi, CHENAB; Shurli, sharoli, ban pulu, geh, ban dilla, Sutlej; Kapasi, bhotia badam, Kumaun. A moderate sized tree of the North-West Himalaya, between 5,500
Ç	and 10,000 feet. Wood pinkish-white, moderately hard. It is only used locally, but it is well grained and does not warp, and deserves to be better known, especially as many specimens shew a fine shining grain resembling Bird's-eye Maple.
	H 57. Nagkanda, Simla, 80,000 feet 37 H 908. Upper Chenab
324	C. ferox, Wall. Vern.—Curri, Nepal; Langura, Bhutia. A small tree of Nepal and Sikkim, 8,000 to 10,000 feet. Wood pinkish-white, moderately hard, even-grained.
	E 376. Tonglo, Darjeeling, 9,000 feet 38
	. CORYPHA.
32 5	Corypha umbraculifera, Linn., Palmæ. The Talipat Palm.
	Vern.—Conda-pani, TAM; Biné, KAN.; Tala, CINGH.; Pebeng, BURM. A tall tree of Ceylon and the Malabar Coast; cultivated in Bengal
	and Burma. Wood soft, with a hard rind composed of black vascular bundles.
: :	The vascular bundles in the centre of the stem are soft. The tree often grows to a great size before flowering; one whose measurements were given in the <i>Indian Agriculturist</i> for November 1873 as flowering at Peradeniya, Ceylon, measured: height of stem 84 feet, of flower panicle 21 feet, total 105 feet; girth at 3 feet from the

	CRATE-
ground round the persistent bases of the leaves 13 feet 9 inches, at 21 feet from the ground 8 feet 3 inches; age about 40 years. The leaves are very large, often 10 feet in diameter; they are made into fans, mats, and umbrellas, and are used for writing on, as also are those of C. Taliera.	GUS.
W 867. South Kanara. Kurz joins C. Taliera with this and C. elata with C. Gebanga.	
COTONEASTER.	
Cotoneaster acuminata, Lindl., Rosace£. Vern.—Ria, rauns, rias, ruinish, HIND. A deciduous shrub of Himalaya, from the Beas to Sikkim, between 4,500 and 10,000 feet. Wood hard, structure like that of C. bacillaris. It is used to make walking-sticks like that of C bacillaris.	326
H 120. Jalaori Pass, Kulu, 9,000 feet 64 H 2889. Nagkanda, Simla, 8,000 feet H 3013.	
C. bacillaris, Wall. Vern.—Rí, riu, lin, lún, rau, reúsh, rish, PB. HILLS; Ruinsh, JAUNSAR BAWUR. A small deciduous tree of the Salt Range above 1,500 feet, of the North-West Himalaya, from the Indus to the Sarda, between 5,000 and 10,000 feet, of Sikkim and Bhutan. Wood white, turning light-red towards the centre, smooth, very hard, close and even-grained, but splits and warps much. It i used for making walking-sticks: the "Alpenstocks" sold at Simla are usually made of it.	327
H 55. Nagkanda, Sımla, 8,000 feet 61 H 2890. H 26. Madha, Simla, 6,000 feet	328
CRATÆGUS.	
Cratægus crenuiata, Roxb., Rosaceæ. Syn.—C. Pyracantha, Persoon. Vern.—Gingaru, gianru, Hind. A large spinescent shrub of the Himalaya, from the Sytlej to Bhutan, from 5,000 to 7,000 feet, descending in Kumaun to 2,500 feet.	329

• •	•
	Wood white, hard, very close and even-grained.
• •	H 2967: Nynee Tal
• .	
• •	CRATÆVA.
330	Cratæva feligiosa, Forst., Capparideæ.
•	Syn.—CAPPARIS TRIFOLIATA, Roxb.; C. ROXBURGHII, Ham.; C, NURVALA
	Vern.—Brarna, bilási, bila, biliana, HIND.; Barún, tikto-shak., BENG.;
	Tailadu, bunboronda, Mechi; Purbong, Lepcha, Váyavarná, bhátavarná, hádavarná, Bom.; Maralingam, marvilinga, Tam.;
	Nirválá, Kan., Mal. ; Ramla, karwan, Mar.; Uskia, usiki ülimidi, uru matti, tella voolemara, Tel. ; Kadet, katat, Burm.
	A moderate sized, distorted tree, met with from the Ravi eastward to Bengal, Assam, Central and South India, and Burma.
	Wood yellowish-white, when old turning light-brown, moderately hard, even-grained. Used for drums, models, writing-boards, combs
	and in turnery.
	P 3217. Nagpahar, Ajmere
	O 270. Garhwal (1868)
	C 3115. Chanda, Central Provinces 45
	B 565. Prome, Burma
	CRATOXYLON.
331	Cratoxylon neriifolium, Kurz., Hypericineæ,
	Vern.—Baibya, Burm. A moderate sized tree, found in Chittagong and Burma.
	Wood dark-grey, hard, close-grained. According to Kurz, it is used for building purposes, for ploughs, handless of chisels, hammers and
	other implements.
	B 312. Burma (1867)
	CROTON.
332	Croton argyratus, Bl., Euphorbiace.
	Vern. — Chonoo, Burm.; Talibdá, And. A moderate sized or small evergreen tree of Martaban, Tenasserim.
	and the Andaman Islands. Wood hard, yellow, close and even-grained, seasons well. It is wor
	thy of notice.
	B 501. Andaman Islands 48
	B 515. " " · · ·
333	C. caudatus, Müll. Arg. Syn.—C. DRUPACEUM, Roxb. (Fl. Ind., iii. 683.)
•	Vern. Nan bhantúr, BENG.; Takchabrik, LEPCHA; Wusta, URIYA.
•	A large straggling shrub of Bengal, Assam, Burma, and South India found chiefly on the banks of streams.
	. 84
	· • •

Timbers. • [PART VI
·	CUPRES.
Wood white or yellowish-white, hard, close-grained. Home says it is	•
used for fuel. E 3298. Sivoke, Darjeeling Terai.	
Croton oblongifolius, Roxb.	334
Vern.—Arjunna, Oudh; Ach, Nepal; Kurti, konya, kuli, Kol; Putri, Lohardugga; Gote, Sonthal; Kote, putol, Mal.; Burma, parskupi, .Ass.; Bhutan kusam, Tel.; Thityin, Burm.	
• A. small tree found in the sub-Himalayan tract from Oudh eastward, in South India, Burma and Ceylon. Wood whitish to yellow close-grained, moderately hard; liable to	••
crack in seasoning. B 3201. Burma (1862); Thityinkat is supposed to be this. C 3452. Chandwar Tori, Chutta Nagpur.	
	•
CRYPTOMERIA,	
Cryptomeria japonica, Don., Consera.	225
Vern.—	335
A large tree of China and Japan, cultivated throughout the district of Darjeeling, and occasionally in other hill districts. Wood white, soft, with a brown, often almost black, heartwood; very uniform, with narrow bands of darker and firmer tissue at the edge of each annual ring.	
lbs.	
E 697. Rungbee, Darjeeling, 5,500 feet 21 E 3615. Rangirúm, Darjeeling, 7,000 feet. E 3679. ,, ,, ,,	
E 30/9. ", ", "	•
CUPRESSUS.	
Cupressus funebris, Endl., Coniferæ.	336
THE WEEPING CYPRESS.	35
Vern.—Chandang, tchenden, BHUTIA.	İ
A handsome tree with pendulous branches, and a fibrous brown bark, often planted in Nepal, Sikkim and Bhutan near temples and monasteries, and in China.	
E 972. Darjeeling Hills, about 5,500 feet 34	
C. sempervirens, Inn. The Cypress.	337
Vern.—Sara, sarás, NW. India.	
A tall tree, cultivated in gardens in Afghanistan and North-West India, sometimes reaching 6 to 9 feet in girth, with 70 to 100 feet in height.	
Wood light-brown, close-grained, moderately hard to hard. It is very fragrant, with a strong, peculiar and pleasant scent. *It is exceedingly durable, and in the Levant and Greece is prized	
for trunks and boxes, the contents of which are proof against most insects. (Brandis.)	:
O 3267. Saharanpur Gardens	1.
84	•

ART VII.	Economic Products of Iudia.
CYNOME- TRA.	• • • • • • • • • • • • • • • • • • • •
. 338	Cupressus torulosa, Don.
•	HIMALAYAN CYPRESS.
	Vern.—Devi-diár, KAVI; Deodar, KULU, BHAJJI; Gulla, gulrai, kallain, SIMLA; Seauri, JAUNSAR; Raisalla, sarai, KUMAUN; Sarrá, sárah-yfu, Tibet, A large tree growing on the outer ranges of North-West Himalaya,
	from Chamba to Nepal, scattered, and in numerous isolated localities of greater or less extent, chiefly on limestone, between 5,500 and 0,000 feet.
	Heartwood light-brown, with darker streaks, very fragrant, moderately hard. Has been much used at Naini Tál for building, and is sometimes used for beamson the Ravi and Sutlej. In Kulu it is made into images, and is used for the poles which carry the sacred ark. It is often burnt as incense in temples.
r	H 30. Tika, Simla, 8,000 feet 34 H 61. Kandru, Simla, 8,000 feet 42 H 771. Belj, near Bassú, Chamba, 7,000 feet 36 H 613. Kulu, 7,000 feet
	CYCAS.
339	Cycas pectinata, Griff, Cycadaceæ. Vern.—Thakal, Nepal.
	An evergreen, simple-stemmed, palm-like tree, found in Sikkim, Eastern Bengal, and Burma, often in sál or eng or pine forests. Wood yellowish-white, in narrow wedge-shaped plates arranged in nearly concentric rings and separated by white tissue, which, like the central pith, is full of starchy granules.
	E 2439. Chenga Forest, Darjeeling, 1,000 feet 54 E 877. Balasun Forest, Darjeeling. Terai
•	CYNOMETRA.
340	Cynometra polyandra, Roxb., Leguminosæ. Vern.—Ping, Cachar, Sylhet. A large evergreen tree of the Khásia Hills, Sylhet and Cachar. Wood light-red, hard, close-grained. Mann says it is very useful
	for scantlings, and makes good charcoal. Weight, 53 to 60 lbs.
	E 1276. Cachar 60
341	C. ramiflora, Linn. Syn.—C. Bijuga, Spanoghe. New Shings Bang (as in Gamble): Irabú Tan.: Mymeng, kabens

Vern.—Shingr, BENG. (as in Gamble); Irapú, BURM.; Galmendora, CINGH.

A large, evergreen tree of the Sunderbans, South India, and Burma, in tidal forests; frequent from Chittagong down to Tenasserim and the Andaman Islands. (Kurs.)

'Wood red, hard, close-grained.
Chips of the wood give, in water, a purple dye. (Gamble.) Skinner

Timbers.	PART VII
	DALBER-
says that the wood is used for house-building and carts. It is used in the Sunderbans for posts for native huts and for fuel.	
E 397. Sundarbans	• •
5 397. Bullandans 1	•
DÆMIA.	•
Dæmia extensa, R. Br., ASCLEPIADACEE. Syn.—ASCLEPIAS ECHINATA, Roxb. Vern.—Chagulbanti, Beng.; Utarana, Sind. A common climber with a fœtid stent; met with throughout India, ascending to 3,000 feet.	342
DALBERGIA.	
Dalbergia cultrata, Grah., Leguminosæ.	343
A moderate sized tree of Burma. Wood purplish-black, with darker streaks, with harder wood than, but structure similar to that of, D. latifolia. It is used for wheels, agricultural implements, handles of dahs and spears, and especially for carvings. The sapwood is very perishable, but the heartwood extremely durable.	
B 2521. Burma (1862)	•
D. foliacea, Wall. Vern.—Tatebiri, Mepal.	344
A large straggling shrub, met with in the Eastern Himalaya and Burma. Wood white, porous, with a small dark heartwood, in structure resembling that of D. stipulacea , except that the medullary rays are broader. E 3274. Múraghát Reserve, Western Dúars.	1
D. lanceolaria, Linn. Syn.—D. FRONDOSA, Roxb. (Fl. Ind., iii, 226; Beddome, lxxxviii.) Vern.—Takoli, bithaa, HIND.; Chapot siris, SONTHAL; Piri, Kol.; Bander, siris, Nepal; Barbat, parbati, Banswarra; Gengri, Panch Mehals; Harráni, Dharwar; Nal valanga, Tam; Pedda sopara, yerra patsaru, pasarganni, Tel.; Dandous, kaurchi, Mar. A deciduous tree of the sub-Himalayan tract from the Jumna eastwards, ascending to 2,500 feet, and of Central and South India. Wood white, moderately hard; not durable; no heartwood. Beddome says the timber is useful for building purposes.	
C 1144. Ahiri Reserve, Central Provinces	
E 618. Champasari Forest, Darjeeling Terai 33 E 2346. Bamunpokri, Darjeeling Terai	

DALBER-GTA:

346

Dalbergia latifolia, Roxb. (Fl. Ind., 181. 221.)

THE BLACKWOOD OF ROSEWOOD OF SOUTHERN INDIA.

Vern.—Sitsal, Beng., Nepal. Oudh; Shisham, sisu, kalarukh, bhotbeula, sissúi, Mar.; Sissu, Guz.; Sirás, sissú, sirsa, sissa, Mandla; Ruté, Kol.; Ruserap, Mechi; Satsiyar, Sonthal; Sissa, Uriya; Iti, eruvadi, Tame; Jitegi, yerugudu, jitangi, Tel.; Biti, thodagatti, Kan.; Bhotuk, Bhil; Seris, Gond; Serisso, Kurku.

A deciduous tree, attaining a large size in South India, also found in

Oudh, Eastern Bengal, and Central India.

Sapwood yellow, small; heartwood extremely hard, dark-purple, with black longitudinal streaks; no distinct annual rings, but alternating concentric belts of dark and light colour, which, however, run irregularly into each other. It coppices well, is easily raised from seed, and reproduces well naturally.

It is a valuable furniture wood, and is exported to Europe from the forests of Kanara and Malabar. Wood sent to London for sale in 1878 fetched £13-10s. per ton. It is also used for cart wheels, agricultural implements and for gun-carriages. It is good for carving and fancy work, and is used for the handles of knives, kukris and other arms. It has been used for sleepers. Nine sleepers which had been down seven to eight years on the Mysore State Railway were found to have, when taken up, five good, three still serviceable, and one bad. It has been grown in plantations in Malabar and Kanara.

									ibs.
P {	464. 467.	} Ajmere		•	•	٠.	•		
	i87.	Mandla,	Central	Provir	ices (1869)			46
C	2984.	Jabalpur	(1863)						53
С	1146.	Ahiri Res	sèrve. Ce	ntral	Prov	nces			58
Č	2732.	Moharli I	Reserve.	Centra	al Pr	ovince	es		52
č		Dangs Fo							53
č	955.	Gumsúr,	Madrac	uzc. ut	, 150.		•	•	64
č	1236.	Guinsui,	Mauias	•	•	•	•	•	
č	1303.	C . i' .	,,,	ri 1.	•	•	•	•	64
Ċ	3456.	Saidope I				•	•	•	
С	3522.	Khurdha				٠ره	•	•	61
D	1476.	Anamalai	Hills, N	/Iadras	S				
E	492.	Khookloo	ng Fore	st, Dai	rieeli	ng Te	rai		
Ē	672.	Bamunpo	kri. Dar	iéeling	Ter	ai			50
Ē	2348.	•	,	1				Ť	60
w	2340.	North K	222	,,	,,		•	•	
VV	1227.	North Ka	illala	•	•	•	. •	٠,	54
W	729.	South	,,	•	•	•	•	. 10	55
W	855.		,, .	•	•	•	•	•	49
D	2044.	Mysore		•		•			54
D	1072.	North Ar	cot .						57
No.	24.	Salem Co	llection						62
E	3675.	Darjeelin		·		-		•	54
č	3682.	Palamow		Nam	ore	-	•	•	
C	3002.	Laidillow	, Ciiuua	riagp	OI C	•	•	•	52

347

D. nigrescens, Kurz (i. 346.)

Vern.—Thitsanweng, BURM.

A moderate sized deciduous tree of the dry mixed forests of Upper Burma.

Wood light-grey, soft.

lbs. (1867)38 201. Burma B 2522. (1862)39

There is some doubt about the identification of these species owing to the absence of concentric bands.

DALBER-GIA. 348.

Dalbergia paniculata, Roxô. (Fl. Ind, iii. 227.)

Vern.—Katsirsa, Oudh; Dhobein, dhohein, pássi, sátpuria, Hind.; Surteli, passi, BAIGAS; Patchalai, valange, TAM.; l'otrum, porilla, patsuru, toper, Tel.; Sondarra, sheodum topia, MAR.; Hasur guniri, pachári, KAN.; Piangani, MAL.; Tapoukben, BURM.; Padri, GOND, BHIL.; Phassi, KURKU.

A large deciduous tree of the North-West Himalaya from the Jumna to Oudh, Central and South India (quoted by Kurz from Burma, but identification doubtful.)

• Wood yellowish or greyish-white, soft, perishable; no heartwood. Structure most remarkable, entirely different from that of other species of the genus: broad concentric masses of wood alternate with narrow, dark-coloured belts of a fibrous substance, resembling the inner bark. Planks cut out of old trees fall to pieces. Wood not durable and very subject to the attacks of insects. Bedome says it is used for building and other purposes.

. D. Sissoo, Roxb. (Fl. Ind., iii. 223.).

THE SISSOO.

Vern.—Shisham, sissu, sissai, HIND.; Shewa, Pushtu; Tdli, safedar, shin, nelkar, Ph.; Sissai, Oudh; Yette, TAM.

A large deciduous tree of the sub-Himalayan tract from the Indus to Assam, ascending to 2,000 feet. Van Someren, in his List of Forest Trees of Mysore and Coorg, gives it as occurring under the Kanarese name biridi, but it is probably not indigenous in those provinces.

Sapwood small, white; heartwood brown with darker longitudinal veins, close and even-grained, seasons well, very hard. Annual rings not distinctly marked, alternating dark and light-coloured bands, which run into each other.

The wood is very durable, seasons well, and does not warp or slip. It is highly esteemed for all purposes where strength and elasticity are required. Clifford says that "in strength it is only inferior to sâl, while in many other useful qualities it surpasses it, and has the advantage of being lighter. For felloes and naves of wheels and carved work of every description, for framings of carriages and similar work, it is unsurpassed by any other wood, owing to its fine seasoning and standing qualities." It is extensively used for boat-building, carts, and carriages, agricultural implements, in construction, and especially for furniture.

Formerly, it was more extensively used for gun-carriages than it can be at present, owing to the comparatively small supply. With regard to its durability and strength as a wood for wheels, Olifford says: "The wheels of our ordnance carriages have never failed, however arduous or lengthened the service has been on which they have been employed, of which no more striking example can be furnished than the campaign in Afghanistan, about the most trying country in the world for wheels. Some of our batteries served throughout the campaign, went to Bameean and even to the Hindoo Koosh and came back again to India without a breakdown, while Royal Artillery wheels. built of the very best materials Woolwich could produce, specially for Indian service, almost fell to pieces after few months' exposure and service on the plains of India."

It has been tried and found to be good for sleepers, and Mr. Mc. Master, in the *Proceedings of the Institution of Civil Engineers*, Vol. XXIII, 1863, says it will be really good for that purpose.

PHNE.	•	
• • • •	It is much planted as an avenue tree all over India and in tations in the Punjab and Bengal.	-
<i>:</i> ·	P 145. Giri Valley, Punjab, 3,000 feet	1bs. 44 52
•	(eight specimens) O 205. Gerhwal (1868) O 357. Dehra Dun O 1460. Bahraich, Oudh O 1486. Kheri, E 675. Rakti Forest, Darjeeling Terai E 2347. Sukna "" E 634. Eastern Duárs, Assam E 3588. Darjeeling Terai	 52 49 52 47 46 42 45
350	Dalbergia stipulacea, Roxb. (Fl. Ind., iii. 233.) Vern.—Tatebiri, NEPAL; Garodosal, MECHI; Tén-nyok, Ler A large climbing shrub of the Eastern Himalaya, ascending feet, of Assam, Khásia Hills, Chittagong and Burma.	
351	E 574. Khookloong Forests, Darjeeling Terai .	
	Samples of undetermined woods supposed to belong to Da B 2523. Burma (Brandis, 1862). B 2230. Andaman Islands.	lbergi a.
352	DAPHNE. Daphne longifolia, Meisn., THYMELEACEE. Vern.—Shedbarwa, NEPAL. A shrub of Eastern Himalaya, the Khásia Hills, and Eas. The bark is used in the manufacture of Nepal paper.	Bengal.
353	D. mucronata, Royle. Vern.—Laghúne, AFG.; Pech, SIND; Kútilál, kanthan, gandal gri, sosho, shing, mashúr, swana, jikri, dona, channi nig, sind, kansian, sonái, PB. A small evergreen shrub, of the Suliman Range, from 3,000 to and the Himalaya from 2,300 to 9,000 feet. Wood white, soft. It is used in Chamba to make gunpowde	gi, kágsari, o 7,000 feet,
	H 2826. Cheog Forest, Simla, 7,000 feet. H 2828. Simla, 7,000 feet.	
354	D. papyracea, Wall. Vern.—Niggi, PB.; Set barúwa, satpúra, Hind; Balwa, Gande, kaghuti, Nepal; Dayshing, Bhutia. A large shrub found on the Himalaya from near the Indus between 3,000 and 9,000 feet, and on the Khásia Hills.	-

Timbers.	PART VI
Wood white, moderately hard. Flowers very sweet-scented. Bark used to make Nepal and Bhutia paper, the commoner thin kind; also to make sopes for various purposes such as carrying loads. E 2408. Darjeeling, 7,000 feet	DEBREG ASIA.
DAPHNIDIUM.	
Daphnidium elongatum, Nees, Laurace E. Vern.—Paieli, pooalay, phusri, Nepal; Phamlet, Lepcha. A large evergreen tree, found in the Siklum and Bhutan Himalaya, from 6,000 feet, and in the Khásia Hills. Wood yellow, turning olive-grey on exposure; moderately hard, evengrained, very pretty and worthy of attention. It is used for building, chiefly planking. E 362. Rangbul, Darjeeling, 7,000 feet 34 E 2418. " 41 D. pulcherrimum, Nees. Vern.—Dabia, Hind.; Sisi, Nepal; Nupsor, Lepcha; Dingpingwai, Khasia. A large evergreen tree of Kumaun, Nepal and Sikkim Himalaya, between 4,000 and 9,000 feet, and of the Khásia Hills and Burma. Wood reddish-white, moderately hard, even-grained. Structure similar to that of D. elongatum. Used for building cattle yokes and occasionally tea-boxes. E. 368. Rangbúl, Darjeeling, 7,000 feet 33 E 2417. ". " " " 40	356
DEBREGEASIA. Debregeasia bicolar, Wedd., URTICACEE. Syn.—URTICA BICOLOR, Roxb.	357
Vern.—Kharwala, shakai, Afg.; Chainchar, chainjli, amrer, sandári, Jhelum; Sansaru, suss, Chenab; Siaru, talsiari, Ravi; Pincho, prin, Sutlej; Tashiari, Kumaun. A large shrub of the Salt Range and the North-West Himalaya, ascending to altitude 5,000 feet. Wood soft and grey. 188. Bhajji, Simla, 4,000 feet	
D. leucophylla, Wedd. Syn.—Morocarpus Wallichianus, Miq. Vern.—Púruni, Nepal; Senén, Lepcha. A small tree, erect or epiphytic, found in the North-East Himalaya up to 7,000 feet, in the Khásia Hills and down to the upper forests of the Pegu Yoma. Wood with the annual rings distinctly marked by a white line. A very pretty plant with round leaves of the purest white beneath. Fibre used sometimes for cordage. E 3329. Darjeeling, 6,000 feet.	358

DENDRO-ALAMUS.

359

Debregeasia longifolia, Wedd.

S, n. - Morocarpus Longifolius, Bl

Vern.—Ta.hiari, Nepal; Kamhyem, Lepcha; Capsee, Kan.; Pwot chaubeng, Burm.

A small tree, found in the North-East Himalaya up to 7,000 feet, in the Khásia Hills, South India, and Burinah; common on old cultivations. Heartwood reddish-brown, hard, sapwood white.

E. 3328. Darjeeling, 6,500 feet.

DENDROCALAMUS.

360 Dendrocalamus criticus, Kurz, Gramine E.

Found in Pegu, altitude 3,000 feet; stems 15 to 30 feet.

361 D. giganteus, Munio.

Syn. -BAMBUSUS GIGANTEA, Wall.

Vern - Wakle, waya, BURM.

Met with in Tenasserim; stems tall, often 26 inches in girth. B. 1320. Moulmein.

362 D. Gongispathus, Kur z.

Vern - Waja, BURM.

Stems 40 to 60 feet in height. B 1324. Ioungoo, Buima.

363 D. Hamiltonii, Nees.

Vern.—Tama, Nepal; Pao, Lepcha; Pa-shing, Bhutia, Kokua, Bing.; Wah, Mechi, Wahnok, Garo

The common bamboo of the Eastern Himalaya.

The halms are large, 3 to 6 inches diameter, rather hollow and not always straight, but they are used for every variety of purpose. The bamboo grows gregariously, on hill-sides, up to 3,000 feet, and the stems are 40 to 60 feet high. They often grow low and tangled, instead of straight, and the bamboo may often be r cognised by this character and by the very thick shoots which grow out at the nodes.

E 1341 E 1466. Bamunpokri

364 D. Hookeri, Munto.

Vern.—Ussey, assey, denga, ukotang, Ass.

Stems 50 feet in Height.

365 D. membranaceus, Munro.

Vern. - Wa-yaı, BURM.

Stems 40 to 50 feet B 1315. Toungoo, Burma.

366 D. Parishii, Munro.

P 114. Sutley, Punjab.

367 D. serviceus, Munro.
Found on Parisnath, Chutta Nagpur.

	DESMO
Dendrocalamus strictus, Nees.	368
THE MALE BAMBOO.	•
Syn.—Bambusa siricta, Roxb. Vern — Bans, bans kaban, bans khúrd, kopar, Hind; Karail, Beng.; Mathan, saring, burumat, Kol.; Bukhar, Palamow; (for the Clump;) Mát, Sonthal; Bas, udha, Bom.; Halpa, veddar, vadur, Gond; Bhiru, Baigas; Kark, Pandratolk; Kanka, Tel.; Myinwa, Burm.	•
This bamboo has often deciduous leaves; the stems are strong, elastic, and nearly solid, 20 to 100 feet high. Used for spear handles, and all purposes of building and basket work. This species occasionally flowers gregariously, but generally single stems only or single clumps are found in flower.	•,
DERRIS.	,
Derris robusta, Bth., Leguminosæ. Syn Dalbfrgia Krowef, Roxb. (Fl. Ind., iii, 229.) Vern.—Mowhitta, Ass.; Bolkakarú, Garo; Krowee, Sylhet; Gumbong, Magh.	369
A deciduous tree of the outer Himalaya from the Ganges eastwards, Assam, Eastern Bengal, down to Pegu. Wood light-brown, hard. Roxburgh says it grows quickly to a large size.	
E 786. Kamrúp, Assam 53	
DESMODIUM.	
Desmodium Cephalotes, Wall., Leguminosæ. Syn.—Hedysarum Cephalotes and Umbeilatum, Roxb. (Fl. Ind., 121, 360.)	370
VernBodle kúrú, NEPAL; Maniphtyol, LEPCHA; Chetenta, Tel. A shrub of the Eastern Himalaya, South India, and Burma. Wood yellowish, in structure resembling that of D. tiliæfolium. E 3281. Dainah Reserve, Western Dúars.	
D. floribundum, G. Don.	371
A shrub met with throughout the Himalaya, up to 5,000 feet, and in the Khásia Hills. In Sikkim it is common in old cultivated lands at 3,000 to 5,000 feet. E 3724 Kalimpung, Darjeeling, 4,000 feet.	
tiliæfolium, G. Don. Vern.—Sambar, shamru, chamra, chamyár, chamkat, chamkúl, martan, motha, gurshagal, pri, marára, múss, múrt, laber, Hind. A large deciduous shrub of the Himalaya, from the Indus to Nepal, between 3,000 and 9,000 fect.	372
Wood yellowish-brown, with a darker centre.	
H 3184. Dungagalli, Hazara, 8.000 feet H 51. Nagkanda, Simla, 7,000 feet H 2934. Mahasu, Simla, 7,000 feet H 3019. Kotgarh, Simla, 7,000 feet (var. Argenteum, Wall.)	· .

CHROA.	
• •	DEUTZIA.
373	Deutzia corymbosa, Brown, Saxifragem. Vern.—Daloutchi, deutsch, bhujru, Simla. A shrub of the Himalaya, from the Sutlej to Bhutan, from 6,000 for 10,000 feet. Wood, White, soft, even-grained.
	H. 2850. Mahasu, Simla, 7,000 feet
· 374	D. staminea, Brown. Vern.—Muneti, Kumaun; Deutsch, Simla. A shrub of the Himalaya, from Kashmir to Bhutan, from 5,000 feet. Wood white, soft; structure similar to that of D. corymbosa.
	H. 2836. H. 2819. Simla, 6,000 feet 43
	DICHOPSIS.
375	Dichopsis Gutta, Bth. and Hook. f., Sapotace. Syn.—Isonandra Gutta, Hook. Indigenous in Singapore and the Malay Archipelago. Yields the Gutta-percha of commerce, exported to Europe from Singapore and the Malay Archipelago.
376	D. polyantha, Benth and Hook. f. Syn.—Bassia polyantha, wall; Isonandra polyantha, Kurz (ii. 119.) Vern.—Tali, Beng.; Sill-kurta, Cachar; Thainban, Magh. A moderate sized evergreen tree met with in Cachar, Chittagong, an Arracan. Wood red, hard, much valued in Cachar and Chittagong. Man says it does not float, but he must refer to green wood. Major Lewin say it is used in Chittagong for making beds, tools, &c., and is sawn into board for the Calcutta market.
	E 1274. Cachar
	DICHROA.
377	Dichroa Febrifuga, Lour., Saxifragez. Syn.—Adamia Cyanea, Wall, (t., 213.) Vern.—Basak, bansirk, Nepal: Gebokanak, Lepcha; Singnamuk, Bhutl. An evergreen shrub, common in the forests of the Eastern Himalays from Nepal to Bhutan and in the Khásia Hills, above 4,000 feet. Wood white, moderately hard, with small pores and moderately broad
•	to very fine medullary rays.

DILLENIA

DICHROSTACHYS.

	,
Dichrostachys cinerea, W. & A., LEGUMINOSE. Syn.—MIMOSA CINEREA, Roxb. (Fl. Ind., ii. 561.) Vern.—Vurtuli, Hind; Kunlai, kunrat, kheri, Mhairwarra; Vadatalla, vadatara, Tam.; Velturu, yeltu, Tel.; Segum kali, Mar., Gond; Andara, Cingh.	.378
A thorny shrub or small tree of the dry, stony hills in South and Central. India, and of Rajputana. Heartwood red, extremely hard. Wood used for walking-sticks. Ibs.	•,
No. 25. Salem Collection	
P 3239. Ajmere	•
DILLENIA.	
Dillenia aurea, Smith, DILLENIACEE. Syn.—D. ORNATA, Wall Vern.—Chamaggai, Oudh; Dheugr, Nepal; Byodben, Burm. A large tree of Nepal, Bengal, Burma, and the Andaman Islands. Wood grey, beautifully mottled, hard, close-grained. It is not used. Ibs.	379
B 2502. Burma (1862)	•
D. indica, Linn. Syn — D. Speciosa, Thunb. (Roxb., Fl. Ind., ii, 650; Beddome, t, 103.) Vern.—Chalta, Hind.; Chalta, hargesa, Beng.; Chilta, Monghyr; Panpui, Garo; Phamsikol, Lepcha; Ramphal, Nepal.; Otengah, Ass.; Rai, Oao, Uriva; Mothe karamala, Bom.; Uva, Tam.; Uva, peddakalinga, Tell.; Bettakanagala, kadkanagula, Kan; Syalita, Mal.; Mota karmal, Mar.; Hondapara, Cingh.; Thapru, chauralesi, Magh; Thabyoo, Byrm.; Carllow, Taleing. A large evergreen tree of Bengal, Central and South India, and Burma; often planted for ornament. Wood red with white specks, close-grained; moderately hard. It is used to make helves and gunstocks, and in construction; and is said to be durable under water. It makes good firewood and charcoal.	
E 596. Khookloong Forest, Darjeeling Terai 40 E 2310. Sivoke Forests, Darjeeling Terai 41 E 1395. Chittagong	,

OSPY- ROS.	
381	Dillenia pentagyna, Roxb. (Fl. Ind., ii. 602.)
	Syn.—D. Augusta, Roxb. (l. c.) Vern.—Aggai, Oudh; Kallai, C. P.; Karkotta, Beng.; Agar, Monghyr Pashkouli, Rajbanshi; Korkot, Sonthal and Oraon; Korkota, Kol and Mal; Suha rúk, Bori, C. P.; Tatri, Nepal; Shukhi, Lepcha; Aksh, Ass., Mechi; Akrchi, uchkai, Garo; Rai, Uriya; Karamalai Bom; Rai, Jinnai, nai-ték, Tam.; Rawadan, chinnakalinga, Tel.; Kanagalu, Mar.; Mirchi, Baigas; Kallei, Gond; Malé geru, Kurg; Machil, kaétega, kadkanagola, Kan.; Zambrún, Magh.; Zimbyun, Burm. A deciduous tree of Oudh, Bengal, Central and South India, and Burma Wood rough, moderately hard, reddish-grey; apt to split, warp, and crack; strong, heavy, durable, handsomely marked on a vertical section by the darker-coloured medullary rays which appear as broad plates. It is used for construction, ship-building, rice-mills, and for charcoal
,	which is of good quality The tree is often found with sal. C 3571. Khurdha Forests, Orissa
382	D. retusa, Thunb. Vern. Godapara, Cingh. A tree met with in Ceylon, up to 2,000 feet. Wood resembling that of the other species; used for building. lbs.
(No. 29 Ceylon Collection 51
383	DINOCHLOA. Dinochloa andamanica, Kurz, Gramineæ. Met with in the Andaman Islands; stems scandent up to 100 feet in height.
384	D. Maclellandi, Kurz. Syn.—Bambusa Maclellandii, Munro. Vern — Wa-nway, Burm. A native of Burma; stems scandent, 60 to 100 feet. B 1320. Chittagong, Burma.
	DIOSPYROS.
385	Diospyros cordifolia, Willd., EBENACEE. Syn.—D. MONTANA, Roxb. (part) (Brandis, 296.) Vern.—Banyab, BENG.; Vackana, kaka ulimera, Tel.; Gyátbeng, Burm. A native of Bengal, South India and Burma. Wood reddish, moderately hard; useful for cabinet-work.
•	E 715. Chittagong (Moishkanda, BENG.; Chapraka, MAGH)

•	DIOSP'
Diagrama Di agram 776 / A	386
Diospyros Ebenum, König.	300
EBONY. Ven.—Ebans abnús, tendu, HIND.; Kendhu, URIYA; Acha, tumbi, sken-	
gutan, kaka-tati, tai, TAM.; Tuki, TEL. Karemara, KAN.; Tai, tendu, abnus, MAR.; Mallali, MANJARABAD; Kalúwara, CINGH. A large tree of South India and Ceylon. Wood grey, with irregularly-shaped masses of jet-black ebony near the centre, frequently with lighter-coloured streaks. It is used for inlaying and ornamental turnery, but the demand for it is not very great.	•
lbs.	
W 731. South Kanara	
O. ehretioides, Wall. Vern.—Ouk-chingsa, Burm.	*387
A large tree of Burma. Wood dark-grey, with darker streaks, moderately hard, even-grained; used for house-posts.	
lbs.	
B 1422. Tharrawaddi, Burma	
D. Embryopteris, Pers. Syn.—D. Glutinosa, Roxb. (Fl. Ind., ii, 533); Embryopteris Glutinifera, Roxb.	388
Vern.—Gáb, makur-kendi, BENG., HIND.; Kúsi, BANDA; Kendu, Ass.; Gusvakendhu, URIYA; Tumbika, pani-chika, TAM.; Tumil, tumika, TEL.; Holle-tupra, Coorg; Kusharta, Kan.; Timberee, Cingh. An evergreen shrub or small tree, with dark-green foliage and long shining leaves, common throughout India and Burma, except the arid and dry zones in the Punjab and Sindh. Wood grey, moderately hard, close-grained.	•
O 3161. Dehra Dun	
D. Kurzii, hiern.	389
Andamanese Marble Wood.	J- 9
Vern.—Teakah, thitkya, Burm.; Pecha-da, And. An evergreen tree of the Andaman Islands. Wood handsome, streaked with black and grey; the grey wood hard; the black wood very hard, with alternate streaks of black ebony and grey wood. The mass of ebony occupying the centre of the tree is large and very irregular in outline, and frequently encloses interrupted concentric belts of light-coloured wood.	v
It is used for cabinet work and for walking sticks, and should be better known as a substitute for the Ceylon Calamander wood, which it resembles in appearance. It is said by Major Ford to be used in the Andamans for handles and sheaths of blades, and for furniture. Home's surveys gave 224 trees or one tree per acre; so it is pretty common.	
B 2203. Andaman Islands (1866)	•
G 97 .	

PART VII	Economic Products of India.
DIOSPY- · ROS.	
390	Diospyros Lotus, Linn.
•	VernAmlúk, malúk, PB.
.:	A middle sized tree with dark-brown or black tasselated bark, found in the Punjab Himalaya, in Hazara and Kashmir, from 2,500 to 6,000 feet, in Afghanistan, Beluchistan, extending to Southern Europe. (Mathieu, Fl
•	Wood grey, moderately hard, close-grained. The fruit is sweetish, and is eaten fresh or dried by the Afghans.
	Mathieu says that in Southern France it is eaten when half-rotten like the Medlar.
	H 3183. Dungagalli, Hazara, 5,000 feet.
391	D. melanoxylon, Roxb. (Fl. Ind., ii. 530.) Syn.—D. Wightiana, Beddome (t. 67) (including D. Tupru, Buch D. EXCULPTA, Ham. (Beddome, t 66); and D. TOMENTOSA, Roxb. (Fl.
. - a	Ind., ii, 532.) (Vern.—Tendu, kendu, temru, abnús, HIND.; Kend, kyou, BENG.; Tiril kiril, SONTHAL; Kend, MAL; Tumri, tummer, tumki, GOND; Tendu BAIGAS.; Tumri, temru, timburni, MAR.; Tumbi, tumbali, karunthumb TAM.; Tumi, tumki, tumida, timmurri, damádi, Tel.; Kendhu, URIYA; Balai, KAN.
	A moderate sized tree, common throughout India, but not in Burma. Wood hard, of a light-pink colour, with irregular-shaped masses o
	black ebony in the centre. The ebony is jet black with purple streaks extremely hard, pores and medullary rays difficult to distinguish. It is used for buildings, shoulder poles, and carriage shafts, and the ebony for al
•	purposes of fancy work, and carving
	P 170. Hoshiarpur, Punjab (Stewart, 1866), the specimen referred to at p. 137 of the
	Punjab Plants 69
·	P 469. Ajmere
	O 1492. Kheri, Oudh
	C 828. Bairagarh Reserve, Berar , . 53
	C 1113. Ahiri Reserve, Central Provinces
	C 2754. Moharli Reserve, Central Provinces
	C 1237. Gumsúr, Madras 65
	C 1301. " "
	C 1302. ", ",
	D 2045. ,,
	No. 26. Salem Collection 82
•	C 3683 Palamow, Chutia Nagpur 63
392	D. montana, Roxb. (Fl. Ind., ii. 538.)
	Vern.—Hirek, keindu, temru, pasendu, PB.; Tendu, dasaundu, lohari
	Vern.—Hirek, keindu, temru, pasendu, PB.; Tendu, dasáundu, lohari, bisténd, HIND.; Makar-tendi, BANDA; Pasend, BHURTPUR; Temru, MEYWAR; Ambia, BANSWARA; Hádru, PANCH MEHALS; Kanchan kadal, pattewar, patwan, C.P.; Muchi tanki, yerragoda, micha tum murra, Tel.; Timru, timbúrni, MAR.; Goindú, kala goindu, balkuniki
	juguiuganie, KAN.
	A moderate sized tree of most parts of India except Sindh, the Northern Punjab, and Burma.
	Wood yellowish-grey, soft, no heartwood, no annual rings. It is
	durable and would be good for furniture.

lbs.

C 192. Mandla, Central Provinces (1870) C 1167. Ahiri Reserve, Central Provinces 98

Timbers.	PART VII.
Diospyros oocarpa, Thw. (Enum., 180.)	DIPTERO- CARPUS. 393
Vern.—Kadoembaireya. CINGH. A middle sized tree of the Konkan, Mysore and Ceylon. Wood purplish-brown, with black streaks, moderately hard; a hand- some wood.	
No. 40. Ceylon Collection (marked Diospyros, sp.) . 45	394
D. pyrrhocarpa, Miq. Vern.—Tay, Burm. An evergreen tree of the Andaman Islands. Wood reddish-brown, moderately hard to hard. lbs,	394
B 1991. Andaman Islands (<i>Kurs</i> , 1866) 50 B 2244. " " (1866) 54	•
D. quæsita, Thwaites (Enum., 129.) THE CALAMANDER WOOD. Vern.—Kaloomidereya, Cingh. A large tree of Ceylon. Wood hard, consisting of irregular Alternate layers of black ebony and greyish-brown wood. The most valuable ornamental wood in Ceylon; it is now scarce, but is much in demand. Ibs.	395
D 2923. S. India or Ceylon	
	396
D. sp.? (D. pilosa, Wall). B 2232 Vern.—Moong, Burm. The wood is hard, compact and close-grained, dark-purplish-grey with narrow streaks of jet-black ebony.	350
B 1997. Andaman	
DIPTEROCARPUS.	
Dipterocarpus alatus, Roxb., DIPTEROCARPEE. Vern.—Garjan, Beng.; Kanyin, Burm. A very large tree met with in Chittagong, Burma, and Andaman Islands. Sapwood white; heartwood reddish-grey, moderately hard, smooth	į
mottled. It is used for house-building and canoes, but is not durable. B. 818. Burma B. 2243. Andamans (1866) (rather eaten)	
D. lævis, Ham. Syn.—D. TURBINATUS, Hook (Fl. Ind., i, 295, in part.) Vern.—Kanyin, kanyin-nee, Burm. A lofty tree of the tropical forests throughout Burma.	398
A lotty nee of the neptem server and 2	

PART VII.	
DIVI DIVI.	•
	Sapwood white; heartwood rough, reddish, soft; is rarely used, but occasionally employed for planking and rafters. 108.
	B 292. Burma (1867) 43 B 2506. , (1862) 49
	D. indicus (Beddome, t. 94), Vern. Guga, alwarra, Kan., of the Wes ern Ghats, is referred to this or to D. turbinatus by Dyer.
399	Dipterocarpus obtusifolius, Teysm. Vern.—Kanyin-kok, Burm.
- 4	A large deciduous tree of the Eng forests of Prome and Martabar ascending to 3,000 feet. Heartwood reddish-brown, rough, moderately hard.
	B. 3128. Kya-eng, Attaran Valley, Burma 59
400	D. tuberculatus, Roxb. (Fl. Ind., ii. 614.) THE ENG TREE.
	Syn.—D. GRANDIFLORUS, Wall. Vern.—Eng, Burm.; Sooahn, Taleing. A large deciduous gregarious tree, forming the "Eng forests" Burma, and Chittagong. Wood red, hard. It is very largely used in Burma for building canoes, and house posts.
	B 2505. Burma (1862) 50 B 306. , (1867)
401	D. turbinatus, Gaerin. f. The Garjan-oil Tree.
(Vern.—Gurjun, tiliyagurjun, BENG.; Kanyoung, MAGH.; Kanyin nakanyin-wettoung, BURM. A lofty evergreen tree, found in Eastern Bengal, Chittagon Burma, and the Andaman Islands. Wood rough, moderately hard; heartwood reddish-grey. It is use for house-building and for canoes in Burma. It yields a wood-oil balsam.
	B 293. Burma (1867)
402	D. zeylanicus, 1 hwaites (Enum., 33.) Vern.—Hord, Cingh. A large tree met with in Ceylon, up to 3,000 feet. Heartwood red, moderately hard. It is used for building.
	No. 37. Ceylon Collection 45
	DIVI-DIVI.
403	Divi-divi or Libi-dibi.

DOLICHAN DRONE. 404 405

to 300 feet high, indigenous to the West Indies, Mexico, and Brazil, naturalised in the Madras and Bombay Presidencies, and in the North-West Provinces. The pod may be known by its drying into the shape of the letter S.

It grows freely in the Botanic Gardens, Calcutta, where seeds are distributed gratis to all applicants.

DODONÆA.

Dodonæa viscosa, Linn., Sapindaceæ.

Syn.—D. DIOICA, Roxb., and D. ANGUSTIFOLIA, Linn. f. (Roxb., Fl. Ind., ii, 256.)

Vern.—Sanatta, mendru, ban mendu, PB.; Banderu; C. P.; Bandurgi, bandrike, KAN.

An evergreen shrub, met with in the North-West Himalaya from the plains up to 4,500 feet, in the Punjab, Sindh, South India, ascending to 8,000 feet and attaining here the size of a small tree, in Burma, and planted throughout India for hedges.

Sapwood white; heartwood extremely hard and close-grained, dark-brown, with an irregular outline. It is used for engraving, turning, tool-handles and walking-sitcks, and the branches to support the earth of flat roofs. It is likely to be important in re-clothing denuded tracts like the Siwalik hills of Hoshiarpur.

P. 804. Salt Range. Punjab.

Vern.—Petthan, malwa, Burm.

DOLICHANDRONE.

Dolichandrone falcata, Seem., BIGNONIACEÆ. Syn.—Spathodea falcata, Wall. (Beddome, t, 71; Brandis, 350); Big NONIA SPATHACEA, Roxb. (Fl. Ind., iii, 103.) Vern .- Hawar, Oudh; Kanséri, Meywan; Mendal, manehingi, BANS-WARA; Mersingi, MAR.; Udda, wodi, Tel.; Mersingh, BHIL; Karan-jelo, Kurku; Nir pongilam, MAL. A small deciduous tree, met with in Oudh, Rajputana, Central and South India. Wood whitish, hard, close and even-grained, seasons well, shining and glossy; no heartwood. Annual rings indistinct. It is used for building and agricultural purposes. lbs. C 1139. Ahiri Reserve, Central Provinces W 995. Sahyádri Ghâts, Ahmednagar D. Rheedii, Seem. Syn. - Spathodea Rheedii, Wall. Vern,-Deyadanga, CINGH.; Thakootma, BURM. A small tree of Burma, Malabar, Ceylon, and the Andamans. Wood white, soft. ibs. B 2545. Burma (1862) 32 B 2252. Andaman Islands (1866) 39 No. 18. Ceylon Collection 23 D. stipulata, Seem. Syn.—Spathodea stipulata, Wall (Kurs, ii, 234); Bignonia stipu-LATA, Roxb. (Fl. Ind., iii. 108.)

A moderate sized deciduous tree of Burma and the Andaman Islands.

406

	Leonomic 1 rouncis of 1 maia.
DUABAN-	
GA.	Heartwood-orange-red, beautifully mottled, hard, close-grained. The wood is used for hows, spear handles, oars, and paddles. Major Ford say it is a durable wood for house-posts, and makes good furniture.
•	lbs. B 2544. Burma (1862) 58
•	B 2261. Andaman Islands (1866) 54
	DOONA.
` 408	Doona zeylanica, Thwaites, DIPTEROCARPEE.
	A large tree of the central provinces of Ceylon. Heartwood the colour of sal, moderately hard. The wood is used for house-building.
	No. 25. Ceylon Collection
	ago.
	DRIMYCARPUS.
409	Drimycarpus racemosus, Hook. f., ANACARDIACE E. Syn.—Holigarna racemosa, Roxb. (Fl. Ind., ii. 82.) Vern.—Kagi, Nepal; Brong, Lepcha; Telsur, Beng.; Amdali, Ass Chengane, sangaipru, sangryn, Magh; Amjour, Sylhet. A large evergreen tree of the Eastern Himalaya from 2,000 to 6,00 feet, the Khásia Hills and Sylhet to Chittagong and Pegu. Wood greyish-yellow, hard, close-grained. Used occasionally in Assa for canoes and planking; in Chittagong for boats, for which it is one
	the woods most employed. Major Lewin says that boats 50 feet lor and 9 feet in girth are sometimes cut.
	E 722. Chittagong 61
	DRYOBALANOPS.
410	Dryobalanops Camphora, Colebr., DIPTEROCARPEÆ. A tree of Sumatra. It yields the camphor of commerce.
	DUABANGA.
411	Duabanga sonneratioides, Buch., Luthrareæ. Syn.—Lagerstromia Grandiflora, Roxb. (Fl. Ind. ii., 503.) Vern. Bandorhulla, Beng.; Lampatia, Nepal; Dúr, Lepcha; Kocharkokan, Ass.; Jarúl-jhalna, Cachar; Bondorkella, achúng, bolchin Garo; Baichua, Magh.; Myoukgnau, Burm. A löfty deciduous tree, with light-brown bark, peeling off in thin flakes a native of Eastern Bengal, ascending to 3,000 feet, Assam, and Burma.
٠.	Wood grey, often streaked with yellow, soft, seasons well, neither warp nor splits. Canoes cut out of it green are at once used, even when liab alternately to wet and the heat of the sun. Is used in Northern Benga

. •	DYSOX
and Arram many and all the state of the stat	. LUM
and Assam very extensively for tea-boxes, for which purpose it is admirably fitted. It is also made into canoes and cattle troughs. lbs.	•
E 3622. Kalimpung, Darjeeling, 2,006 feet	٠.
E 652. Raktı Forest, Darjeeling Terai 32	
E 2380. Sukna Forest, Darjeeling Terai	
E 1230. Sibsagar, Assam 36	
E 1436. Assam	
E rea Culhat	
E 713. Chittagong 31	
B 807. Pegu • . •	
urable woods. See Appendix.	•
DYSOXYLUM.	
ysoxylum binectariferum, Hook. f., Meliacer.	412
Syn.—D. MACROCARPUM, Bl. (Beddome liv, t, 150); GUAREA BINECTARIFERA, Roxb. (Fl. Ind., ii, 240.)	
Vern.—Katongsu, Lepcha; Rangirata, Cachar; Borogatodhara, Ass.	
A large evergreen tree of Sikkim, ascending to 2,000 feet, of Assam,	
Khásia Hills, Chittagong, and the Western Ghâts. Wood reddish-grey, rough, and close-grained, hard; worthy of notice.	
lbs. E 644. Khyrbani Forest, Darjeeling Terai 44	•
. Hamiltonii, <i>Hiern</i> .	413
Vern.—Bauriphal, Nepal; Gendelli poma, bosuniya poma (Wall), Ass.; Bolashin, Garo.	4-3
A large evergreen tree of the Darjeeling Terai, Assam and Sylhet.	
Wood red, hard, close-grained. Used in Assam for boats and planks; said not to be durable. Hamilton says it is used for canoes.	
lbs.	
E 1259. Tezpur, Assam	
procerum, Heirn.	414
Vern.—Dingori, govorpongyota (Wall), Ass.	4-4
An evergreen tree of Assam, Khásia Hills and Cachar to Pegu and Tenasserim, of Sikkim and Western Dúars.	
Wood bright red, moderately hard; handsome and well deserving of more extensive notice. It is said by Hamilton to be used for canoes.	
lbs.	
E 631. Eastern Duars 40	
E 1434. Assam	
E 3505. Randung Forest, Darjeeling Terai	•
E 3595. Randung Forest, Darjeeling Terai B 2484 (44 lbs.), B 2250 (40 lbs.), and B 2255 (31 lbs.) from the	
B 2484 (44 lbs.), B 2250 (40 lbs.), and B 2255 (31 lbs.) from the Andaman Islands (1866) have been put under this species on	
B 2484 (44 lbs.), B 2250 (40 lbs.), and B 2255 (31 lbs.) from the	•

170	B	TO S	NT	•
		B I		м.

ECHINOCARPUS.

415. Echinocarpus dasycarpus, Benth., Siliace E.

Vern .- Gobria, NEPAL,

A large cree of the Eastern Himalaya, from 5,000 to 7,000 feet. (Hooker in Flora Indica says: "Sikkim at 2,000 feet," but I have never seen it below 5,000 feet.—7. S. G.)

Wood greyish-brown, soft; used for planking for tea-boxes and to

make charcoal.

It is in considerable demand in Darjeeling.

E. 694. Chuttocl pur, Darjeeling, 6,000 feet . . . 32

EDGEWORTHIA

416 Edgeworthia Gardneri, Meisn., THYMELEACEE.

Vern.—Kaghubi, aryiii, NEPAL.

A large elegant bush, almost leafless when covered with its clusters of yellow sweet-scented flowers. Found along the Himalaya from Nepal to Sikkim and Bhutan, and recently found plentiful on the mountains of Manipur, extending to the northern frontier of Burma. Between 4,000 and 9,000 feet altitude.

Wood grey, light, soft, with little lustre.

EHRETIA.

417 Ehretia lævis, Roxb., Boragineæ.

Vern.—Chamrár, kóda, darár, datranga, HIND.; Chumbul, SIND; Tambol, BANDA; Mosonea; URIYA; Dotti, disti, gilchi, GOND; Datrang, MAR. Paldatam, redda pul-mera, seregad, Tel.; Koppura, KAN.

A moderate sized tree, found on the Suliman Range, Punjab, sub-Himalayan tract, in Oudh, Bengal, Burma, the Andaman Islands, and Central and South India.

Wood greyish-white, hard, tough, durable.

It is used for agricultural implements and building. The fruit is eaten as is also the inner bark in times of famine.

E. obtusifolia, Hachstetter.

Vern.-

418

A small shrub of the Salt Range in the Punjab, Sind, and Rajputana. Wood resembling in structure that of E. izevis.

P 3245. Ajmere.

(Specimens wanted.)

419 E. Wallichiana, Hook. f., and Th.

Vern.—Boeri, dowari, NEPAL, ; Kalet, LEPCHA.

A large tree met with in the Darjeeling forests, from 2,000 to 7,000 feet; sometims gregarious.

Wood grey, moderately hard. Annual rings marked by light-co-loured belts.

	ELÆOCA
It is used for building, for charcoal, and occasionally for making	PUS.
E. 690. Sepoydura Forest, Darjeeling, 5,500 feet . 33 E. 3597. Darjeeling 6,000 feet	•
. ELÆAGNUS. *	
Elæagnus hortensis, M. Bieb., Elæagneæ. Syn.—E. Angustifolia, Linn.; E. Moorgroftii, Wall. Vern.—Sanjit, Afg., Sirshing, Tibet; Shiank, N. W. P. A small tree of Ladak, Baltistan and Afghanistan, extending to the Mediterranean region. Sapwood narrow; heartwood dark-brown, porous, soft. Used for fuel. Weight 36 to 41 lbs. per cubic foot.	420 -
E. latifolia, Linn.	42 I
Syn.—E. CONFERTA, Roxb. Vern.—Ghiwáin, mijhaula, Kumaun; Jarila, Nepal.; Guara, Beng.; Kamboong, Magh. A straggling evergreen shrub or small tree, found in the Himalaya, from Kumaun to Bhutan, Khásia Hills, Eastern Bengal, and South India. E 2407. Tukdah, Darjeeling, 5,000 feet 45 E. umbellata, Thunb. Vern.—Ghiwáin, ghain, kankoli, bammewa, PB. A thorny, deciduous shrub, found in the Himalaya, from near the Indus to Bhutan, between 3,000 and 10,000 feet. Wood white, hard, even-grained, warps in seasoning. 1bs. H 71. Mashobra, Simla, 7,000 feet	422
ELÆOCARPUS.	
Elæocarpus lanceæfolius, Roxb., TILIACEÆ. Vern.—Bhadras, batrachi,, NEPAL Shepkyew, LEPCHA; Sakalang, Ass. A large tree of the Eastern Himalaya from 6,000 to 8,000 feet; the Khásia Hills. Sylhet, and Tenasserim. Wood soft, light-brown. It is used for house-building, tea-boxes, and charcoal.	423
E 358. Rangbúl, Darjeeling, 7,000 feet 41	
E. robustus, Roxb. (Blume in Gamble.) Vern.— Yalpai, Sylhet; Bepari, batrachi, Nepal; Chekio, Magh; Taumagyee, Burm. An evergreen tree of the Eastern Himalaya, ascending to 2,000 feet, the Khasia Hills, Eastern Bengal, Chittagong, Buyma, and the Andaman Islands. Wood white, shining, soft, even-grained. E 581. Khookloong Forest, Darjeeting Terai 38	424
7 201. 121.00	, 05

ENGEL-
HARDTIA

ELÆODENDRON.

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Syn.—E. PANICULATUM, W. & A. (E. ROXBURGHII, W. & A., in Gamble); Negrija dichotoma, Roxb.

Vein.— Mirandil, padriún, bakra, janwa, PB; Bakra, shauria, chauli, daberi, mámri, N.-W, P.; Chauri, metkúr, Oudh; Chikyeng, Lepcha; Jamrási, kala crukha, rohi, C. P.; Dhakka, misur, Gond; Nirú, Kurku; Aran, tamruj, Mar.; Bata karas, Bhil; Karkava, irkuli, selupa, siri, Tam.; Nirija, neradi, botanskam, kanemis, bootigi, Tel.; Bhutrakshi, Hyderabad; Bhutápálá, chutayá, támaruja, nerrelu, Cingh; Miri, Neouri, Sonthal; Tonki, Mal.

A tree of the Suk-Himalayan tract from the Ravi eastwards, of Central and South India.

Wood moderately hard, even and close-grained, works and polishes well, light-brown, often with a red tinge; the outer wood white, but no distinct sapwood; no annual rings. It is often beautifully curled and flaked.

It is used for cabinet work, combs and picture frames.

					IDR.
	Garhwal (1868)'		•		56
O 2991.	,, (1874)	•.	•	•	48
	Mandla, Central Provinces (18		•	•	50
	Ahiri Reserve, Central Province	es	•	•	55
	Melghát, Berar	•	•	•	49
E. 2335.	Bamunpokri, Darjeeling Terai	•	•	٠	57
	Ceylon Collection	•	•	•	56
P. 460.	Ajmere.				

ELSCHOLTZIA.

426

Elscholtzia polystachya, Benth., LABIATE.

Vern.—Rangchari, mehndi, JHELAM; Garúdar, tappaddar, CHENAB; Dúss, RAVI; Pothi, SUTLEJ; Bhangria, KUMAUN,

A shrub of the North-West Himalaya, from the Jhelam eastwards,

and of the Khásia Hills, from 6,000 to 10,000 feet.

Wood grey, moderately hard, splits and cracks, and in seasoning separates into concentric masses. Annual rings distinutly marked by a belt of numerous and larger pores in the spring wood. Common in forest undergrowth, growng often to 10 or 12 feet high.

H	2844	3					
H	2936.	}	Mahasu, Simla, 7,000 feet	•	. •	•	42

ENGELHARDTIA

427

Engelhardtia Colebrookiana, Lindl., Juglander.

Vern.—Timar rákh, PB.; Mowa, gobar mowa, bodal mowa, mao, Kumaun; Khusam, Banda.

A small deciduous tree of the outer North-West Himalaya ascending

to 6,500 feet; often gregarious.

Wood grey with a reddish tinge, moderately hard, even-grained, seasons and polishes well, but is not durable.

Timbers. [PART V
	EPHEDE
Engelhardtia spicata, Bl.	· 428
Syn.—E. ROXBURGHIANA, Lindl.; JUGLANS PTEROCÒCCA, Roxb. Vern.—Silapoma, HIND.; Mowa, mahua, Nepal. , Suviak, Lepcha; Bolas, Beng.; Rumgach, Ass.; Bor-patta-jam, Cachar; Dinglaba, Khasia; Vakru, Garo.	· .
A large, handsome, deciduous tree, found in the Terai and outer hills of Eastern Himalaya up to 6,000 feet, in Chittagong and Burma. Character and structure of the wood similar to that of E. Colebrookiana, showing a beautiful grain on a radial section. It is used in Sikkim for tea-boxes and building; in the Khásia Hills and Cachar for planking and spoons. It does not warp.	
E 653. Bamunpokri, Darjeeling Terai 30 E 687. Sepoydura Forest, Darjeeling, 5,000 feet . 33 E 2442. Chuttockpur Forest, Darjeeling, 6,000 feet . 36	
ENKIANTHUS.	
Enkianthus himaliacus, Hook. f., and Th., ERICACEE.	420
Vern.—Chothu, Nepal. A small tree of Sikkim Himalaya, 10,000 to 12,000 feet. Wood white, moderately hard, even-grained. Growth slow, 40 rings per inch of radius.	
E 976. Chumbi Valley, Tibet, about 10,000 feet. E 3725. Tonglo, Darjeeling, 10,000 feet.	
ENTADA.	
Entada scandens, Bth., Leguminosæ. Syn.—E. Pursætha, D.C.; Mimosa scandens, Roxb. Vern.—Gilla, Beng.; Geredi, Uriva; Pangra, Nepal; Taktokhyem, Lepcha; Gardal, Bom.; Kongnyin-nway, Burm. A large climbel of the torests of Eastern Bengal, South India, Burma, and the Andaman Islands. Stems spirally twisted. Wood soft, fibrous, spongy.	430
(Specimens wanted.)	i.
EPHEDRA.	
Ephedra Alte, C. A. Meyer, GNETACEE. Vern.—Alte, ARAB.; Kuchan, nikki-kurkan, brata, tandala, las túk, mangarwal, PB.	431
A gregarious shrub of the arid zone, in stony places in the Punjab and Sind.	
Bunches of the stem and branches sometimes used for cleaning brass dishes.	}
(Specimens wanted.)	
E. vulgaris, Rich. Vern.—Asmánia, budshur, chewa, PB.; Khanda, khama, KUNAWAR; Tse, tsapatt, trans, LADAK. A small rigid shrub of the inner arid North-West Himalaya.	432
Wood whitish-yellow. Occasionally used as fuel. (Specimens winted.)	

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ERIOBOTRYA.

Eriobotrya bengalensis, Hook. f., ROSACEÆ. 433

Syn .- Mespilus Bengalenesis Roxb. : Mespilus Tinctoria, Don Prod. Nep.

Vern.—Berkung, LEPCHA.

A small tree of the Eastern Himalaya, Sikkim, altitude 4,000 feet, of the Khásia Hills, Chittagong and Ava.

E 3664. ' (Specimens wanted.)

434 E. dubia, Dene.

Syn.—PHOTINIA DUBIA, Lindl.

Vern .- Berkung, LEPCHA.

A small tree of the North-East Himalaya, from 5,000 to 6,000 feet. Wood white, soft, even-grained. Weight 46 lbs. per cubic foot.

E 2365. Rangbúl, Darjeeling, 7,000 feet. 46

E. elliptica, Lindl. 435

Vern.—Mihul, mya, NEPAL; Yelnyo, LEPCHA.

A moderate sized evergreen tree of Sikkim and Bhutan Himalaya, from 6,500 to 8,000 feet.

Wood reddish-brown, compact, hard, apt to warp slightly; it is good but not used. Weight 58 lbs. per cubic foot.

58

lha.

366. Rangbúl, Darjeeling, 7,000 feet. E 3100. Darjeeling, 7,000 feet.

E 3664. Darjeeling, 7,000 feet.

ERIODENDRON.

436 Eriodendron anfractuosum, DC., MALVACEÆ.

THE WHITE COTTON TREE.

SVn.—BOMBAX PENTANDRUM, Roxh.

Vern.—Safed simal, sembal, hatian, katan, huntan, HIND.; Shwet simul, BENG.; Ilavam, ellava maram, TAM; Baruga, kadam, pur, TEL.; Shamirida, MAR.; Pania, MAL.; Trubul, CINGH.

A tall, deciduous tree of India and Burma, found throughout the hotter parts.
Wood soft. Weight about 30 lbs. per cubic foot.

ERIOGLOSSUM.

Erioglossum edule, Bl., SAPINDACEÆ.

Syn. -E. RUBIGINOSUM, Bl.; SAPINDUS RUBIGINOSA, Bl.

Vern .- Ritha, HIND.; Ishi, rashi, TEL.; Manipangam. TAM.: Tseikchav.

A large tree of Sikkim, Assam, South India, and Burma. Wood, according to Roxburgh, strong and durable, with chocolate-

66 No. 23. Brandis' Burma List, 1862, marked Sapindus

437

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108

coloured heartwood.

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· •	ERYCIB
ERIOLÆNA.	
Eriolæna Candollei, Wall., Sterculiaceæ.	428
Vern.—Dwanee, Burm.	.430
A deciduous tree, found in Burma.	
Heartwood brick-red, with orange and brown streaks, old pieces,	
however, losing their bright colour; hard, close-grained, shining, takes a	
beautiful polish, seasons well. Weight about 50 lbs. per cubic foot. It is used for gunstocks, paddles, and rice pounders, is very hand-]
somely marked, and is well worthy of attention.	i
lbs.	
B 286. Burma (1867) 41	
B 326. " " 53	
B 1455. " 54	
B 2512. " (1862)	
E. Hookeriana, W. & A.	439
Vern Nar-botku, Tel.; Arang, BERAR; Kutki, bhonder, GOND;	105
Búndún, oit bulung, Kol.; Ponra, Oraon; Gua goli, Sonthal; Gua kasi, Mal.	
A small tree of Central and South India.	1
Wood light-red. Annual rings marked by an almost continuous	1
fine of poxes.	İ
C 3191. Chanda, Central Provinces.	1
3437. Kumandi Reserve, Palamow, Chutia Nagpur.	
E. spectabilis, Planch.	440
Vern.—Nar-botku, Tel.; Arang, BERAR; Kutki, bhonder, GOND.	
A small tree of the Central Himalaya to Nepal. Dr. Watt found	3
it plentiful everywhere on the dry, red clay hills in the arid districts of Manipur.	
Wood hard and close-grained. Heartwood light red; sap wood grev.	
E 3707. Calcutta B. Gardens.	
To Malliahii DC	
E. Wallichii, DC. Vern.—Kubindé, Nepal.	441
A small tree of Nepal and Sikkim Himalaya.	Ĭ
Sapwood grey; heartwood reddish-brown, hard, mottled.	}
Wood much esteemed by Nepalese.	1
Base Paramakri Dariasling	
E 2326. Bamunpokri, Darjeeling 40	
•	
ERYCIBE.	
Erycibe lævigata, Wall., Convolvulaceæ.	442
Vern.—	
A straggling shrub met with in the Sikkim Himalaya at 5,000 to 6,000 feet, and in the Khásia Hills at about 4,000 feet.	1
Wood grevish white, similar in general structure and the arrange	
ment of the woody masses, separated by lines of cellular fissue, to that	
of E. paniculata, Koxo.	1.
E 3726. Sureil Darjeeling, 5,500 feet.	1

PART VII.]

ERYTHRI-NA.

-443

Erycibe paniculata, Roxb.

Vern.-Urumin, Kol.

A diffuse or sub-scandent shrub, or an erect tree, 40 feet, found throughout India from Oudh eastward, and southward to Ceylon, Tenasserim, and the Nicobars.

Wood soft, porous.

C 3497. Ghatsila, Dhalbhum.

ERYTHRINA.

444

Erythrina arborescens, Roxb., Leguminos.

Vern.—Rungara, Kumaun: Rodinga, fullidha, Nepal; Gyesa, Lepcha; Dingsong, Khasir

A small or moderate sized tree found in the outer Himalaya from the Ganges to Bhutan up to 7,000 feet, and in the Khásia Hills.

The wood has a similar structure to that of **E. suberosa** and indica, but it is more compact, less spongy, and has more numerous concentric bands of soft texture.

E 3106. Darjeeling, 7,000 feet. E 3330. Darjeeling, 7,000 feet.

445

E. indica, Lam.

THE INDIAN CORAL TREE.

Vern.—Pangra, panjira, pangara, farad, HIND. and Bom.; Palita mandar, Beng.; Muruká, Tam.; Modugu, Tel.; Pangara, phandra, Mar.; Háliwara, páliwára, Kan.; Chaldua, paldua, Uriya; Birsing, Lohardugga; Pharad, Monghyr; Madar, Cachar; Katheik, Magh.; Pen-laykathit, Burm.; Dudap, Malay; Errabadu, Cingh. (Mochi wood of Madras).

A small tree, wild in Oudh, the mountains of Bengal, Assam, Manipur, Burma, and South India; largely cultivated in the plains as a hedge plant.

Wood rather durable, though it is so light and open-grained, it does not warp or split, and it varnishes well. Structure the same as that of **E. suberosa**.

It is used for light boxes, toys, scabbards, trays.

				103.
C 820. Bairaga	rh Reserve, Berar .		•	17
B 2343. Myanou	ng, Burma	•		18
B 2223. Andama	in Islands (1866).	•	• ,	26

446

E. stricta, Roxb.

Vern.—Mouricon, kichige, KAN.; Toung kathit, BURM.; Falleto, fullidha, Nepal.

A large tree of Burma and the western half of the Peninsula. Wood soft, recembling that of E. suberosa.

It is sometimes used for planks.

E 2344. Bamunpokri, Darjeeling Terai . . . 16

447

E. suberosa, Roxb.

Vern.—Pangra, dauldhák, rúngra, rowanra, nasút, madára, Hind.; Gúlnashtar, pariára, thab, Pb.; Fullidha, Nepal.; Mandal, Garo; Katiang, Lepcha; Muni, maduga, Tam.; Mulu modugu, Tel.; Phangero, Gond; Gada phassa, Kurku; Farhud, Kharwar.

A moderate sized deciduous tree of the Himalaya from the Ravi to Bhutan, ascending to 3,000 feet, of Oudh, Central and South India, and Burma.

Timbers.	[PART.VII
Wood very soft, spongy, white, fibrous but lough; that near the centre of darker colour, but no regular heartwood. It is used for scabbards, sieve-frames, and occasionally for planking. Ibs. O 530. Dehra Dún	EUCALYP-
ERYTHROXYLON.	,
Erythroxylon burmanicum, Griff, LINEE. Vern.— A tree of Burma and the Andamans. (Specimens and information wanted.)	448
E. monogynum, Roxb. BASTARD SANDAL. Syn.—E. INDICUM, Beddome; Sethia indica, DC. Vern.—Devadarů, dwadarum, Tam.; Adivî gerenta, Tel. A small tree of South India and Ccylon. Sapwood white; heartwood dark-brown, with a pleasant resinous smell, very hard, takes a beautiful polish. Used as a substitute for sandalwood (Santalum album.)	· 449
D 1083. North Arcot	450
serim, and the Andaman Islands. Wood greyish-brown, moderately hard. No. 60. Ceylon Collection 51 E. triphylla, DC. Vern.— A meagre slender shrub, 3 to 5 feet high, frequent in the damp hill forests, entering the drier ones, from Martaban down to Tenasserim, at 3,000 to 5,000 feet elevation. Wood light, pale-pinkish, close-grained, straight, fibrous, with silvery lustre. (Kurs.)	451
EUCALYPTUS. Eucalyptus Globulus, Labill., Myrtacer. The Blue Gum. Vern.—Kurpoora maram, Madras. A lofty tree, gregarious in Victoria and the south of Tasmania. Introduced on the Nilgiris, and now complety naturalised. Wood strong and tenacious, durable, extensively used in Australia	452

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456

Economic Products of India.

EUGENLA	١
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for beams, railway sleepers, piers and bridges; also for ship-building. The wood from the Nilgiri plantations has scarcely been used, except for firewood of charcoal. In Australia the wood is brown, hard, tough, durable. The wood of a tree grown on the Nilgiris, 18 years old and 95 feet high, is grey, with darker streaks and moderately hard.

EUGENIA.

453 Eugenia formosa, Wall., MYRTACEÆ.

Syn.-E. TERNIFOLIA, Roxb.

Vern.—Bara jaman, Nepal; Bunkonkri, Mechi; Bolsobak, pandridung, Garo; Famsikól, Lepcha.

A moderate sized evergreen tree of the Eastern Himalaya and sub-Himalayan tract, near streams, of Chittagong and Tenasserim.

Bark greyish-white, smooth, thin. Wood grey, hard.

E 2956. Tista Valley, Darjeeling 61

454 E. grandis, Wight.

Syn.—E. Cymosa, Roxb. (Fl. Ind., ii, 492.)

Vern. - Jam, Beng.; Battiljamb, Sylhet; Zebri, Magh; Toung thabyay,

An evergreen tree of Eastern Bengal, Burma, and the Andaman Islands.

Wood red, rough, hard.

B 2713, 48 lbs., brought from Tavoy by Dr. Wallich in 1828, has a structure similar to that of E. grandis.

455 E. Heyneana, Wall.

Syn. - E. SALICIFOLIA Wight.

Vern.—Panjam-búl Mar.; Hendi Gond; Gambu, Kurku; Gara kúd, Sonthal.

A large shrub or small tree of the Bombay Ghâis, Berar, and Central Provinces.

Wood similar to that of E. Jambolana, but pores smaller.

E. Jambolana, Lam.

Vern.—Jamoon. jáman, jám, phalinda, jamni phalúni, pharenda, phaunda, paiman, Hind.; Jám, Beng.; Jamo, Uriya; Phoberkúng, Lepcha; Chambu, Garo; Kudo, kud, Sonthal; Jam, Mal; Kuda, Kol; Jambún, Oraon; Kor-jam, Mechi; Jamu, Ass.; Naval, narvel, nawar, naga, Tam.; Nerale, Mysore; Narala, Kan.; Nasedu, nairuri, nareyr, Tel.; Naindi, Gond,; Jambúl, Mar.; Mahadan, Cingh.; Zebri, chaku, kau, Magh; Jambool, Bom.; Thabyai-pyoo, Burm.

A moderate sized evergreen tree, found wild or in cultivation all over India, from the Indus eastward, ascending to altitude 5,000 feet.

•	EUGENIA
Wood reddish-grey, rough, moderately hard, darker near the centre;	•
no distinct heartwood. It is fairly durable. Five sleepers of it were	Α.
laid down in 1870 on the Oudh and Rohilkhand Railway, and taken up	
in 1875, when they were reported to be fairly sound and not touched by white-ants. It is used for building, agricultural implements and	•
carts, also for well-work, as it resists the action of water well.	•
lbs.	
P 1192. Madhopur, Punjab	
P 452. Ajmere	•
O 210. " " 47	
O 211. " " 49	
O 224. " " 44	
O 239. " "	
O rog Dohn Dun	
0 535	•
O 875. Mohun Forest, Kumaun Bhabar 58	
O 337. Gorakhpur (1868) 51	
O 338. " " 42	
C 199. Mandla, Central Provinces (1870) 52	
C 1135. Ahiri Reserve, Central Provinces (with a slightly different structure) 56	
C 2761. Moharli Reserve, Central Provinces 43	
C 1251. Gumsúr, Madras	
E 664. Rakti Forest, Darjeeling Teral 54	
E 2377. Sivoke Forest ,, , . • 44	
E 1396. Chittagong 48 E 1958. ,	
E 1950. "	
E 3598. Darjeeling Terai	
B 3065. Burma (1862) 52	•
No. 61. Ceylon Collection 30	
E. 2199 (43 lbs.) received from Assam under the name of E. mangifolia,	
Wall. (Hook, Fl. Ind., 11, 480), resembles in structure E. Jambolana.	
B 2292 (56 lbs.) received from the Andamans in 1866 under the name of Eugenia sp. has a moderately hard, compact, grey wood, with	
the structure similar to that of E. Jambolana, which is not yet known to	
grow in the Andamans.	
No. 1 of Adrian Mendis' Ceylon Collection (49 lbs.) is E. sylvestris,	
Wight (Hook., Fl. Ind., ii, 493; Beddome, cvii), Syzygium sylvestre,	
Thwaites (Enum., 116, vern. Alubo, CINGH.). In structure it resembles E. Jambolana.	
Eugenia juvanica, Lamk.	457
Syn.—E. ALBA; Roxb. Vern.—	
A tree of Malacca, the Andaman and Nicobar Islands.	
E 3716.	
:	.=0
E. Kurzii, Duthie.	458
Syn.—E. cerasiflora, Kurs.	
Vern.—Jómun, Nepal; Sunom, Lepcha. • A large evergreen tree, met with in the hills of Bengal and Burma,	
from 3,000 to 6,000 feet.	
Wood reddish-grey, moderately hard, rough. 1bs.	
E 701. Sepoydura Forest, Darjeeling, 5,500 feet 56	
E 2955. Tukdah Forest, Darjeeling, 5,000 feet (young tree) . 37	
н 113 .	•

eugenia:	•
· 459	Eugenia malaccensis, Linn.
Ĭ.	Vern.—Thabyoo-thabyay, Burm.
·	A moderate sized evergreen tree, cultivated in Bengal and Burma for its fruit. Wood reddish-grey, rough, soft. Weight, Wallich gives 30, our specimen 38 lbs. per cubic foot.
	B 309. Burfna (1867)
•	E. operculata, Roxb.
460	Var. I. Operculata, proper.
•	Syn.—E. CERASOIDES, Roxb. (Kurs, 484); SYZYGIUM NERVOSUM, DC.; EU- GENIA NEROOSA, Bedd. (non DC. as in Gamble.) Vern.—Raijámar paiman, jamawa dúgdugia, HIND.; Topa, Kol.; Tea- thaby-ay (Yethabyay), thabyay-chin, Burm.
: .	A moderate sized or even large evergreen tree, met with in the sub- Himalayan tract from the Jumna to Assam up to 2,000 feet, in the forests of Chittagong, Burma, the Western Ghâts, and in Ceylon up to 3,000 feet.
	Wood reddish-grey, hard; used for building and agricultural implements.
	O 334. Gorakhpur (1868)
461	Var. II.—Paniala, Sp., Roxb. (Kurz, 1,483). Found in Chittagong, Sylhet, and Burfna. (Specimens are wanted.)
.60	Var. III. Obovata, Kurs, Sp. (Wall, Gamble 194.)
462	Vern.—Kiamoni, NEPAL; Jung song, LEPCHA; Boda-Jam, MECHI. Found in the savannah forests of Bengal and Burma.
¢	Wood grey, rough, moderately hard.
	E 584. Khookloong Forest, Darjeeling Terai 51
463	E. Sp.
	Vern.—Thabyay, Burm. A tree with hard, close-grained, red wood, found in Burma. 108. 108. 108. 108. 108.
	E. tetragona, Wight.
464	Syn.—E. PECOX, Roxb. Vern.—Kemma, chamlani, Nepal; Sunóm, Lepcha. A large evergreen tree, found in the hills of Northern Bengal up to 6,000 feet, and in Chittagong. Wood brownish or olive-grey, shining, hard. It is used occasionally for building, and for the handles of tools, and for charcoal.
	E 682. Sepoydura Forest, 5,500 feet, Darjeeling . 46 E 1446. Mishmi Hills (Griffith, 1836) 48
465	E. zeylanica, Wight, Vern.—Sagarabatna, URIYA. A small myrtle-like shrub of the scrub forests in Orissa. Wood grey, hard, close-grained. C 3582. Khurda Forests, Orissa.

	EUON
euonymus.	A .
Euonymus frigidus, Wall., Celastrineæ.	·466
A straggling shrub found in the Himalaya from Kumaun to Bhutan from 8,000 to 12,000 feet. Wood yellowish-white, moderately hard, compact. E 3406. Tonglo, Darjeeling, 10,000 feet.	•
Syn.—E. LACERUS, Ham. (Gamble, 84.) Vern.—Siki, pattali, papar, banchir, dudhater, hanchu, pash, mara, chikan, rangchil, kioch, Pr.; Gule, grui, Simla. A small deciduous tree of the Himalaya, from the Indus to Sikkim between 6,000 and 11,000 feet. Wood white, moderately hard, exceedingly compact, close and evengrained. Weight, 48 lbs. per cubic foot. It is used for carving.	467
H 67. Nagkanda, Simla, 9,000 feet 48 H 2883. ,, ,, ,,	
E. Hamiltonianus, Wall. Syn.—E. Atropurpureus, Roxb. Vern.—Siki, singi, chual, watal, papar, rithu, randi, brahmani, banchor, karan, skioch, sidhera, naga, Ps.; Agniun, agnu, Kumaun. A large deciduous shrub, or small or occasionally moderate sized tree of the outer Himalaya, from the Indus to Bhutan, and of the Khasia Hills from 4,000 to 8,000 feet. Wood white, with a slight yellow tinge, soft, close-grained. It is used for carving into spoons.	468
H 3173. Dungagalli, Hazara, 8,000 feet	
E. nov, sp. A climbing shrub found in British Bhutan at 7,500 feet altitude. Wood wlute, soft, compact, with extremely small pores, and extremely fine medullary rays. E 3667. Khumpung, British Bhutan, 7,500 feet.	469
3. pendulus, Wall. Vern.—Chopra, pincha, garúr, kúnku, NW. P. A moderate sized evergreen tree, found in the Himalaya, from the Jhelum to Nepal, between 2,500 and 7,500 feet. Wood white, moderately hard, compact, with a light-red tinge, very close and even-grained.	470
H 86. The Glen, Simla, 6,000 feet	• •

EUPHOR-BIA.

Euonymus theæfolius, Wall.

.·	A shrub of the Central and Eastern Himalaya, up to 8,000 feet in Sikkim. Wood of structure similar to the rest, but the medullary rays are somewhat. Groader and the annual rings more distinct. E 3308. Rangbúl, Darjeeling, 7,500 feet.
472	Vern.—Kungku, NW. P.; Newar, kasúri, NEPAL; Chopra, mer mahaul, Simla. A small evergreen tree of the Himalaya, from the Sutlej to Nepal between 6,500 and 10,000 feet. The structure and appearance of the wood are the same as Euonymus grandiflorus, except that the wood of this species has a slightly reddish tinge. H 32. Madhan, Simla, 7,000 feet
	EUPHORBIA.
473	Euphorbia antiquorum, Linn., Euphorbiace E. Vern Teketa sij, Beng.; Tidhara, Hind.; Shidu, Mechi; Shasoung- pya-thal, Burm.; Dalik, Cingh; Nara-seja, Bom. A bush with three-angled branches and stems, found on the arid hills above Coimbatore, and on the lower dry slopes of the Himalaya from Kashmir eastward.
474	E. Cattimandoo, Elliot. Vern.—Katti mandu, Tel. A small tree with five-angled stems.
475	E. neriifolia, Linn. Syn.—E. LIGULARIA, Roxb. Vern.—Mausa sij, Beng.; Gangichú, PB.; Thor, Bom.; Nivadunga, minaguta, Sind.; Shasoung, Burm. A small tree with spirally-twisted five-angled stem, Galtivated near villages throughout India, and by the Mechis regarded as sacred.
476	E. pulcherrima, Willd. Syn.—Poinsettia pulcherrima, Grahm. Cultivated in gardens on account of its crimson floral leaves, which appear about Christmas.
477	Syn.—E. PENTAGONA Royle. Vern.—Thor, PB.; Sali, JHELAM; Chúla, CHENAB; Chún, RAVI; Chú, chúnga, súrs, BEAS; Súro, tsui., Sutlej; Sohúnd, Kunaun. A large, milky shrub of the North-Western Himalaya, ascending to 6,000 feet. Wood spongy. It reaches 15 to 16 feet in height, the stems having
•	2 to 3, and often even 5 to 6 feet in girth. It is often planted as a hedge, and grows readily from cuttings, even on the driest soil.

P 3075. Sabathu, Punjab.

Timbers.	PART VI
	EVODIA
Euphorbia Tirucalli, Linn. Vern.—Lanka-sij, Beng.; Sehud, Hind.; Seju, Uriya; Tirnkalli, Mal.;	.478
TAM.; Thora, SIND.; Jemudu, kalli-chemuda, manche, TEL.; Shasoring, lekuryo, BURM. A small tree, with round stems and smooth branches; cultivated as a	·.
hedge throughout India. The wood is white or grey, moderately hard; strong. It is used for veneering and for toys.	
*C 5509. Khurda Forests, Orissa.	
EURYA.	•
Eurya acuminata, DC., TERNSTROMIACEE. Vern.—Sanujhingni, NEPAL; Flotungchong, LEPCHA. A small evergreen tree of the hills of the North-Eastern Himalaya, Assam, and Martaban, from 5,000 to 8,000 feet. Wood differs from that of E. symplocina in having the larger medullary rays less broad and less prominent. Weight, 32 to 47 lbs.	.479
E 2320. Rangbúl, Darjeeling, 7,500 feet 47	
E. japonica, Thun. Vern.—Baunra, gonta, deura, HIND.; Thingni, Nepal; Tungchong, Lepcha; Hoolooni, Nilgiris; Tounglet pet, Burm. A shrub or small tree, found in the Himalaya from the Jumna eastwards, above 3,000 feet in altitude; it is also found in the Western Ghats, and in Burma. Wood brown, soft, close-grained.	480
It is sometimes used for fuel. E 3723. Kalimpung, Darjeeling, 4,000 feet.	•
E. symplocina, Bl. Vern.—Baraihingni, kisi, Nepal; Flotungchong, Lepcha. A small evergreen tree of the hills of the North-Eastern Himalaya, from 5,000 to 7,000 feet, and of Burma. Wood reddish-white, soft, close-grained. Used only for firewood.	48 1
E 385. Rangbúl, Darjeeling, 7,000 feet	
EVODIA.	
Evodia fraxinifolia, Hook. f., RULACEE. Vern.—Kanukpa, NEPAL; Kanú, LEPCHA. A small tree of the Eastern Himalaya in Sikkim, between 4,000 and 7,000 feet, and of the Khásia Hills from 3,000 to 5,000 feet. Wood white, soft; used only for posts of huts.	482
E 3101. Darjeeling, 7,000 feet 21 E 3641. The Park, Darjeeling, 6,500 feet.	

AECA-	•
483	Evodia Roxburghiana, Bth.
•	Syn.—E. TRIBHYLLA, Beddome; FAGARA TRIPHYLLA, Roxb.; ZANTHOXY- LUM TRIPHYLLUM, Thwaites.
•	Vern.—Uebede, lunu, ankenda, CINGH. A small, tree found in the Khásia Hills, South India, and Ceylon, Tenasserim, and the Andaman Islands. Wood greyish-brown, moderately hard.
484	E. triphylla, DC.
t	A small tree much resembling E. Roxburghiana, and inhabiting damp localities in Burnea and the Andaman Islands, Japan, China, and Borneo.
•	Wood light, soft, pale-pinkish, close-grained, straight, fibrous, with silvery lustre. B 1979. Andamans.
	EXCÆCARIA.
485	Excæcaria Agallocha, Willa, Euphorbiacez.
	Vern.—Gangwa, geor, uguru, geria, Beng.; Tayan, kayan, Burm.; Chilla, Tel.; Yekin, Burm., in the Andamans; Geva, Bom. A small evergreen tree of the Coast and tidal forests of India,
	Burma, and the Andaman Islands. Wood very soft, spongy. Grows occasionally to 5 feet in girth and
	40 feet in height, though generally cut for posts when of small girth. It is a useful wood for general carpentery purposes, such as toys,
ı	bedsteads, tables, &c. a white timber; the juice which exudes from the bark when green is very poisonous. Roxburgh says it is only used for charcoal and firewood.
	B 2477. Andaman Islands (Kurs, 1866)
486	E. baccata, Müll. Arg.
400	Syn.—Carumbium baccatum, Kurs; Sapium baccatum, Roxb. Vern.—Pudlikat, lal kainjal, Nepal; Adamsali, Ass.; Billa, Sylhet;
	A large evergreen tree of Northern and Eastern Bengal, Chittagong, and Burma.
	The bark is chewed by natives in Assam. To this species probably belongs E 1062 from Chittagong, a soft
	grey wood, in structure resembling that of E. indica; as well as E 3340 from Assam, called there Tarsing, NEPAL; Selling, CHUTIA NAGPUR COOLIES; Larrna, Ass. Weight, 28 lbs. per cubic foot.
487	E. indica, Mull. Arg.
	Syn.—Sapium indicum, Roxb. Vern.—Húrua, batál, Beng.; Kirri makalu, Cingh.
	A small evergreen tree, found in the Sundarbans and the tidal forests
•	Wood soft, white, with small brown heartwood; it is used in the Sundarbans for fuel.
	E. 409. Sundarbans
	. 118

•	FAGRASA
Excæcaria insignis, Müll. Arg.	488
Syn.—Carumbium insigne, Kurs; Falconeria insignis, Royle. Vefn.—Dúdla, bilodar, biloja, karálla, ledra, Pb.; Khinna, khína lienda, lendwa, Hind.; Garpa shola, Anamalais?	•.
A small deciduous tree of the sub-Himalayan tract from the Beas eastwards, ascending to 4,300 feet, of Chittagong, Burma, and Western Ghâts as far north as Násik. Wood grey, very soft, spongy; it is used for the cylinders of native	•
drums.	
H 103. Bhajji, Simla, 4,000 feet	•
E. sebifera, Müll. Arg.	489
THE CHINESE TALLOW TREE.	
Syn.—Carumbium seriferum, Kurz; Sapium seriferum, Rozbi Vern.—Moon-china, Beng. (in Rozb. Fl. Ind.) A small or moderate sized tree, introduced into India, and widely	
cultivated throughout the Northern districts. Wood white, moderately hard; when dry it is useful, and is made into toys, bed-steads, tables, &c.	
bs. O 3114. Dehra Dun	
•	
FAGRÆA.	
Fagræa fragrans, Roxb., Loganiaceæ. Vern.—Anan, Burm.	490
An evergreen tree of Burma. Wood hard, brown, close-grained, beautifully mottled. It is very durable, and is not liable to the attacks of "Teredo." It is one of the most important of the reserved trees of Burma, especially in Tavoy; and is used for house-building, bridge and wharf piles, boatanchors and other purposes.	•
B 289. Burma (1867)	
F. (?) obovata, Wall.	491
Vern.—Sunakhari, Nepal; Longsoma, Magh.; Nyoungkyap, Burm. An evergreen tree, often scandent or stem-clasping, found in the forests of Northern and Eastern Bengal, Chittagong, and Burma. Wood hard. Weight 56 lbs.	
E 1450. Mishmi Hills (1836) 56	
F. racemosa, Jack.	492
Vern.—Thit-hpaloo, Burm. A moderate sized evergreen tree found in the Andaman Islands. Wood moderately hard, greasy to the touch and with a scent like that of India-rubber. Weight 50 lbs. per cubic foot. Major Ford says it is strong and durable, and that the wood is used for house-posts.	
B 1990. Andamans (Kurz, 1866)	
119	•

FICUS.

FERÓNIA.

493

Feronia Elephantum, Correa, RUTACEE.

THE WOOD-APPLE.

Verst. Bilin, keit, kat-bél, HIND.; Kath-bel, BENG.; Vallanga, velá, kavít, Tam.; Vellam, Madura; Velagá, elaka, yellanga, Tel.; Bilwar, Kan.; Kawat, Mar.; Hman, Burm.

A large tree found in the sub-Himalayan forests from the Ravi eastward, in Bengal, South India, and the Chanda district of the Central Provinces

Wood yellowish-white, hard. Annual rings distinctly marked by a

white line. Weight about 50 lbs. per cubic foot.

It is used for house-building, naves of wheels, oil-crushers and agricultural implements. It yields a clear yellow gum, soluble in water; said to have been sent from Madras to the Punjab Exhibition. Ainslie says that it is also used by dyers and painters, particularly miniature and chintz painters. It is also employed in making ink and varnish, and by brick-layers in preparing certain cements and plasters. It occurs in irregular tears, semi-transparent or brownish. The Pharmacopaia of India pronounces it as superior to gum-arabic for medicinal purposes.

E 2487. Calcutta.

FICUS.

404

¢

Ficus bengalensis, Linn., URTICACEE.

THE BANYAN TREE.

Syn.-F. INDICA, Roxb.

Vern.—Bor, bar, ber, bargat, HIND.; Bur, but, BENG.; Boru, URIVA; Borhar, NEPAL; Kangji, LEPCHA; Vanket, GARO; Bot, ASS.; Barelli, GOND.; Wóra, KURKU; Ala, TAM.; Mari, peddi-mari, Tel.; Ahlada, aladamara, ala, KAN.; Bor, MAL. (CHUTIA NAGPUR); Peralu, MAL.; War, vada, MAR.; Maharenga, CINGH.; 'Pyee-nyoung, BURM.; Bai, KOL.

A large tree, wild in the East Himalayan tracts, planted throughout India.

It is one of the most characteristic of Indian trees, in many cases each forming a forest in itself from its habit of sending down roots from the branches. The well-known tree in the Botanic Gardens, Calcutta, which was ascertained by Falconer to have grown in 1782 from a seed deposited in the crown of a date palm, and which is consequently now 98 years old, measured when examined by Falconer in 1834, Hooker in 1847, and Balfur in 1863, 300 feet in diameter of spread and 80 feet in height. It has since suffered severely in the cyclones of 1864 and 1867.

Wood grey, moderately hard; no heartwood. Weight about 37 lbs. It is of little value, but is durable under water, and therefore used for well curbs. It is sometimes used for boxes and door panels. The wood of the drops is stronger and is used for tent poles, cart-yokes and banghy poles.

ď			lbe.
C 1150.	Ahiri Reserve, Central Provinces		38
C 836.	Bairagarh Reserve, Berar	•	39
C 2813.	Melghát, Berar		•••

		FIC
icus comosa, Roxb.	•	195
SynF. Benjamina, Linn., var. C		•
Vern. —Kabra, Nepal ; Kunhip, Le Tel. ; Sunonijar, Sonthal ; Jili	A ; Juri pakri, Ass.; Putra-juvi, AL(Chutia Nagpur.)	
A moderate sized, evergreen, ofte Burma, the mountains of the eas Tinnevelly.	epiphytic tree, found in Bengal, n side of the Peninsula, and	•
Wood grey, beautifully mottled, n per cubic foot.	erately hard. Weight, 34 lbs.	
E. 588. Bamunpokri, Darjeeling	• 1bs. • 34	
cordifolia, Roxb.	-	49 6
Sat-bur, CACHAR; Prab, GARO; Nyoungpyoo, Burm.	njar, suman, pipar, LOHARDUGGA; BENG.; Pakar, NEPAL; Pakri, ASS.; arás pipal, AJMERE; Pair, MAR.;	
A large deciduous tree of the outer wards, ascending to 5,000 feet, of Be It is generally epiphytic and is then Wood very soft, spongy. Weight The wood is used in Cachar for ch	al, Central India, and Burma. y destructive to timber trees. lbs. per cubic foot.	
H 605. Chitul Forest, Kangra P 3224. Nagpahar, Ajmere . E 586, 20 lbs., sent from the Di Niwaro, and E 716 (27 lbs.) sent Hijalya, BENG.; Choupaha, MAGH., re	m Chittagong under those of l	
Cunia, Buch. Vern.—Khewnau, khurhur, kassa Kanhya, Nepal; Kunai, palka Dumbur, yajya-domur, Beng.; Foro dumer, Kharwar; Poro dumer, Kharwar; Poro dumer, Kharwar; A moderate sized tree of the sub-feastward, ascending to 4,000 feet in al Wood rough, moderately hard, g cubic foot. It is not used.	ghwi, HIND.; Kunia, KUMAUN; taikran, Mechi; Sangji, Lepcha; ha, Lohardugga; Riu, ain, Kol; Sonthal; Poroh, Mal. (Chutia -kha-ong, Burm. halayan tract, from the Chenab ade, of Bengal and Burma. ish-brown. Weight 31 lbs. per	497
O 1365. Gonda, Oudh . E 583. Bamunpokri, Darjeeli E 1953. Chittagong . E 3718. R. B. Gardens, Calcu This last has white, soft wood, and		
		498
. elastica, Bl. THE INDIA-RUBBER TREE. So Vern.—Bar, attah bar, Beng., A Lepcha; Rauket, Garo; Lesu, N	CAOUTCHOUC. ; Kagiri, kasmir, KHASIA; Yoki,	T7
A large evergreen tree, usually en aerial roots from the branches, found eastward to Assam and Arracan. Of it in Assam.	pytic, throwing down numerous in the North-Eastern Himalayas,	

cus.	
•	Wood white or light-brown. Weight 43 lbs. per cubic foot.
•	It is not used:
.•	E. 2449. Chawa Jhora, Sivoke, Darjeeling 43
499	Ficus foveolata, Wall.
	Vem. Trelu, Symla; Makreru, Kunawar; Dudita, Nepal; Taksot, Lepcha.
•	An evergreen scandent shrub found in the Himalaya, from the Sutlej to Bhutan, and in the Khásia Hills. Wood light-brown, soft, very porous. Weight 38 lbs. per cubic foot.
•	H. 2833. The Glen, Simla, 6,000 feet 38
500	F. glomerata, Roxb.
•	Vern.—Kathgúlar, krumbal, kakammal, dadhúri, PB.; Gúlar, paroa, lelka, umar, umrái, tue, Hind.; Dumri, Nepal; Tchongtay, Lepcha; Jagya dumar, Beng.; Lowa, lóa, Sonthal and Kol; Dumer, Kharwar and Mal. (Chutia Nagpur); Dimeri, Uriya; Thoja, Gond; Alawa, Kurru; Atti, Tam.; Moydi, atti, bodda, paidi, mari, Tel.; Kulla-kith, Kan.; Umbara, Mar.; Atteeka, Cingh.; Ye-tha-pan, Burm. A large tree of the Salt Range, sub-Himalayan Tract, Bengal, Central and South India, and Burma. Wood grey, soft, mottled on a longitudinal section. Weight 25 to
	30 lbs. It is not durable, though it lasts well under water, and is consequently used for well-frames.
	C 1138. Ahiri Reserve, Central Provinces
50 f	F. hispida, Linn. Syn.—F. OPPOSITIFOLIA, Roxb. (Fl. Ind., iii, 561); F. DEMONA, Konig, (Roxb., l.c., 562.) Vern.—Dadúri, degar, rúmbal, PB.; Kagsha, gohla, totmila, kat gularia, konea-dumbar, HIND.; Dhedu mera, PANCH MEHALS; Kharwa, NEPAL; Taksot, LEFCHA; Dumar, kako-dumar, BENG.; Sita pordóh, Sonthal; Kotang, sosokera, Kol.; Bhudoi, Mal. (Chutia Nagpur); Poksha, Mechi.; Khoskadumar, Ass.; Shakab, Garo; Boda-mamadi, bummarri, bamári, Tel.; Katumer, bomair, Gond.; Koreh, Kurku; Maiulok, Magh; Kadot, Burm.
	A moderate sized tree of the outer Himalaya from the Chenab eastward, ascending to 3,500 feet, of Bengal, Central and South India, Burma, and the Andaman Islands. Wood soft, dirty grey, no heartwood, no annual rings. Weight 25 to 35 lbs.
	C 1180. Ahiri Reserve, Central Provinces
502	F. infectoria, Willd. Syn.—F VENOSA, Ham. Vern.—War, batbar, jangli pipli, palakh, trimbal, PB.; Pilkhan, kahim, mal, ramánjír, pákhar, pakri, keol, kaim, khabar, Hind.; Pákar Beng.; Safed kabra, Nepal; Kangji, Lepcha.; Prab, Garo; Serilli Gond; Pepere, Kurku; Jovi, kall-alun, Tam.; Yewi, yuri, Tel.; Tsjakela, Mal.; Bassari, Tel.; Kari, basri, bassari, Kan.; Baswesa, 'Kol.; Nyoungchin, Burm. A large tree found in the Suliman and Salt Ranges, the outer Hima-

•	
	FICUS.
laya ascending to 5,000 feet, Bengal, Burma, Central India, Western Coast, and Ceylon.	
Wood grey, moderately hard. Weight about 35 lbs. It is common in the forests; but the wood is not durable. It is used in Assam and Cachar to make charcoal.	•.
P 911. Salt Range	•
Ficus nemoralis, Wall.	5034
A moderate sized tree of the outer Himalaya from the Jhelum to Sikkim, ascending to 7,000 feet.	•
Wood white, moderately hard, close-grained. Weight 38 lbs. per cubic foot.	
H 3080. Gowai, Simla, 6,000 feet 38	
·F. regia, Miq. •• Vern.—Neverra, Nepal.	504
An evergreen tree found in the North-East Himalaya and Burma. Wood soft, spongy. Weight 29 lbs.	
E 689. Scpoydura Forest, Darjeeling, 5,500 feet . 29	
F. religiosa, Linn.	505
THE PEEPUL.	
Vern.—Pipal, Hind.; Ashathwa, aswat, asú.; Beng.; Pipli, Nepal; Borbur, Cachar; Arasa, Tam.; Rúi, raiga, ragi, ravi, Tel.; Ali, Gond; Pipri, Kurku; Rangi, basri, Kan.; Hesar, Kol.; Jári, Uriya; Bo, Cingh.; Nyoungbandi, Burm.	9
A large tree usually epiphytic. Regarded, as sacred, found all over India, and commonly planted along roadsides.	
Wood greyish white, moderately hard. Weight 30 to 45 lbs. It is used for fuel, for packing cases, and in Cachar for charcoal.	
lbs. P 893. Multán	
O 533. Dehra Dùn 31	
O 538. " "	
O 543. " "	
C 837. Bairagarh Reserve, Central Provinces 34	
C 2014. Weighat, Derar	
F. retusa, Linn.	506
Syn.—F. NITIDA, Thunb.; F. BENJAMINA, Willd. Vern.—Kamrup, sir, BENG.; Yamu, NEPAL; Sinyok, LEPCHA; Yerrajuvi,	
(Chutra Nagpur); Butisa, Kol.	
A large evergreen tree, often epiphytic, of Kumaun, Bengal, South India, Burma, and the Andaman Islands.	•
Wood light-reddish-grey, close-grained, moderately hard, beautifully mottled. Weight 40 lbs. per cubic foot.	

Economic Products of India.

ICIUM.	•
	It is used for fuel, but as it is very prettily grained it might be found valuable for tables, door panels and other purposes.
,•	E 404. Sundarbans
507	Ficus Roxburghii, Wall.
•	Syn.—F. MACROPHYLLA, Roxb. Vern.—Urbúl, urmúl, barbaru, túsi, trimbal, trimal, tírmal, tirmi, tiamle, PB.; Trimmal, timal, timla, HIND.; Kasrekan, NEPAL; Kundoung, LEPCHA; Demúr, BENG.; Kotang, Kol.; Sapai, MAGH; Sin-tha-hpan, BURM.
<i>(</i>	A moderate sized tree of the outer Himalaya from the Indus eastward, ascending to 6,000 feet, Sylhet, Chittagong, and Burma. Wood reddish-grey, moderately hard. Weight 34 lbs. lbs.
,	H 606. Chital Forest, Kangra
508	F. tomentosa, Willd.
	Vern.—Petta mari, Tel. A large tree, a native of mountainous tracts, found in Banda, Behar, Central and Southern India, generally epiphytic. Wood white or moderately hard. Roxburgh says it is very light, and of little or no-use even for fuel.
	E 3646. Daltonganj, Palamow 41
	F. Tsiela, Roxb.
ί	Vern.—Jovi or peddi-jóvvi, Tel. This, Roxburgh remarks, is, next to F. religiosa, the largest species of Indian fig. It is a large handsome tree, with smooth bark, wholly glabrous. It is a native of the lower hills of Bengal and South India, but in cultivation for shade is met with along the roads throughout India.
509	F. virgata, Roxb.
	Syn.—F. CARICOIDES, Roxb. Vern.—Anjir, insar, AfG.; Fagu, fagóra, dudhi, dhura, phedu, kak, daholia, Hills; Fagwara, thapur (Plains), PB.; Gúlar, khabára, anjiri, beru, bedu, Hind.
	A moderate sized or large tree found in the Sulimum and Salt Ranges, and in the outer Himalaya eastward to Nepal, ascending to 6,000 feet.
	Wood white, close and even-grained, moderately hard. Weight 39 lbs. per cubic foot.
	P 910. Salt Range
	FILICIUM.
510	Filicium decipiens, Thwaites, Burserace, Vern.—Katu puveras, Tam.; Pehimbia, Cingh. A cree with elegant fern-like leaves, found in the Western Ghâts up to 4,500 feet, and in Ceylon.

511

Heartwood red, moderately hard. Pores small, in groups or short radial lines. Medullary rays, fine, numerous, at unequal distances. Weight 68 lbs. per cubic foot (A. Mendis).

The wood is strong and valuable for building.

lhe No. 70. Cevlon Collection 68

FLACOURTIA.

Flacourtia Ramontchi, L'Herit., BIXINIE.

Syn .- F. SAPINDA, Roxb.

Vetu.—Kûkai, kakoa, kangû, kandel, Pb.; Bilangra, bhanber, kanjû, handi, kattâr, katti, Hind.; Kaikun, Mhairwara; Kánk, kánki, bilâti, C. P.; Arma-suri, katien, Gond; Gurgoti, Kurku; Bincha, katdi, Beng.; Serali, merlo, Kol.; Katail, Palamow; Bonicha, baili, bainfho, Uriya; Pahar, bhekal, kakei, kaker, Mar.; Bhutankas, Hyderabad; Kanregu, pedda-kanru, kaka, nakka-naregu, Tel.; Ugûrassa, Cingh.; Nayuwai, Burm

A small thorny deciduous tree met with in dry hills throughout India and the Prome District in Burma.

Wood red, hard, close and even-grained, splits, but does not warp, and is durable. Weight about 53 lbs.

The wood is used for turning and agricultural implements, and the fruit and leaves are eaten.

-	_							ins.
Р	400.	Ajmere						52
		Nagpahar, Ajmere						
0	260.	Garhwal (1868) .						50
С	2739.	Moharli Reserve, Cer	ntral	Prov	inces			52
В	3125.	Burma (1862) .						59
С	3453-	Saidope Reserves, Pa	alamo	ow, (Chutia	Nag	Dur	
C	3488.	Kolhán Forests, Sing	bhur	n. C	hutia l	Nago	ur.	

FLEMINGIA.

Flemingia congesta, Roxb., LIGUMINOSÆ.

Vern.—Bara-salpan (as in Rob.;) Bhalia (as in Gamble), Beng. and HIND.; Batwasi, Nepal; Mipitmuk, Lepcha; Dangshu kop, Mechi; Dowdowla, Bom.; Roxburgh also gives for var. nana the vernacular names of Supta, rusunt, HIND.

An erect, woody shrub, common in the thickets and forests of the

warmer parts of India.

The Flora of British India reduces to this species the following forms described by Roxburgh as distinct (see Ed. C. B. C., pp. 571-72):

F. procumbens, F. prostrata, F. nana, F. congesta and F. semialata, forming four varieties :-

Var. 1.—semialata—Central Himalaya, ascending to altitude 5,000 feet.

Var. 2.—latifolia—Khásia Hills, altitude 2,000 to 3,000 feet.

Var. 3.-Wightiana-Nilgris, Bhutan, Ava.

Var. 4.—nana—Central and Eastern Himalaya and the Konkan. Wood white.

E. 3279. Dainah Forest, Western Dúars.

RCINIA.	
. •	FRAXINUS.
	Fravinus floribunda Wall Orraces
513	Fraxinus floribunda, Wall., OLEACEE. Vern.—Banárish, Afg.; Súm, súnnú, shún, húm, hamer, túnnú, Pb.; Angau, angu, dakkúri, N. W. P.; Kangu, tahási, Nepal.
	A large deciduous trees found in the Himalaya, from the Indus to Sikkim, between 5.000 and 8.500 feet.
	Wood white, with a light-red tinge, no heartwood, soft to moderately hard. Weight 48 lbs. per cubic foot. It is rough and hard, and is used for oars, jampan poles, ploughs,
	and other purposes.
•	H 612. Parbatt Valley, Kulu, 7,000 feet
	The structure is exceedingly similar to that of F. excelsior , the European Ash (No. 2974), but that species has a distinct brown heartwood.
	Fuel—A list of some of the hest woods in use for. See APPENDIX.
	Furniture—Woods suitable for. See Appendix.
	GARCINIA.
514	Garcinia Cambogia, Desrouss., Guttiferæ. Vern.—Aradal, manthulli, KAN.; Heela, Burghers (Nilgiri Hills).
¢	A small evergreen tree of the West Coast and Ceylon. Wood grey, cross-grained, shining, hard. Weight 54 lbs. per cubic
	foot. Beddome says it would answer for common furniture.
	W 845. South Kanara 54
515	G. cornea, Linn.
3-3	Met with in East Bengal and Burma. Wood brown and heavy. (Kurs.)
	(Specimens wanted.)
	C. Come. Paul
516	G. Cowa, Roxb. Syn.—G. Kydia, Roxb.
1	Vern.—Cowa, HIND.; Toungthalay, BURM.
	A tall evergreen tree of Eastern Bengal, Assam, Chittagong, Burma, and the Andaman Islands.
	Wood greyish-white, moderately hard. Weight 37 to 47 lbs. It is not used.
	B 549. Martaban 43
	B ₃ 148. Burma (1862)
517	G. eugeniæfoliæ, Wall. A small tree of the Eastern Peninsula, Singapore, Malacca. (Griffith.)
	r (Specimens wanted.)

Timbers	PART VII
	GARCINIA
Garcinia heterandra, Walli Vern.—Thanat-tau, Burm.	518
An evergreen tree of the hills of Burma up to 3,000 or 4,000 feet. Wood white, soft.	
(Specimens wanted.)	
G. indica, Choisy. Syn.—G. Purpurea, Roxb. (Fl. Ind., ii, 624.) Vern.—Brindall, Goa.	519
A slender tree with drooping branches, found on the ghâts of Kokcan and Kanara.	
(Specimens wanted.)	·,
G. lonirceoides, T. And. SynG. Succisolia, Kurs. A small or moderately sized evergreen tree, frequently met with in swamp forests in Pegu.	, 5 20
Wood white, turning yellowish, rather heavy, coarsely fibrous, very	
perishable. (Specimens wanted.)	
G. Mangostana, Linn., Guttiferæ. * The Mangosteen.	521
Vern.—Mangkob, Youngsalai, Burm. An evergreen tree, a native of the Straits; cultivated in British Burma on account of its fruit. (Specimens wanted.)	
G. Morella, Desrouss.	F02
THE GAMBOGE TREE.	522
Syn.—G. PICTORIA, Bedd., the form met with on the Malabar and Canara, Mysore and the Western Coast.	,
Vern.—Aradal, punar puli, kankutake, Kan.; Gokatú, kana-goraka, Cingh. (The gum resin); Gota gamba, Hind.; Makki, Tam.; Revachinni, Mar.; Sanatosi Burm.; Gokatu, Cingh. An evergreen tree of the Khásia Hills, East Bengal, and the west coast of Ceylon. Wood yellow, hard, mottled. Weight about 56 lbs. The wood might be useful for cabinet-making, but the tree is chiefly valued for its gamboge.	
No. 14. Ceylon Collection (marked Gambogia Gutta, Vern. Cocative)	
G. speciosa, Wall. Vern.—Palawa, Burm. An evergreen tree of Tenasserim and the Andaman Islands. Heartwood red, very hard, cross and close-grained. Weight said to range from 45½ to 72 lbs. The wood is used for house and bridge posts, and other purposes; said to be used by the Andamanese to make bows. Kurz says it is of equally good quality with the "bullet-wood" of the Andamans.	523
B 504. Andaman Islands	

Part VII.	Economic Products of India.
GARDENIA.	
	Constitution of the many
524	Garcinia stipulata, T. And.
	Vern.—Sana-kadan, LEPCHA.
	Met with in Sikkim and Bhutan up to 4,000 feet.
	(Specimens wanted.)
525	G. travancorica, Beddome.
	Verme Malampongu, Tinnevelly.
•	Met with in the forests of Travancore and Tinnevelly.
	Specimens wanted.)
52 6	G. Wightii, T. And.
	Found in South India. (Specimens wanted.)
•	
527	G. Xanthochymus, Hook. f. Syn.—Xanthochymus pictorius, Rozb.
	Vern.—Tepor, Ass.; Dampel, Hind.; Mataw, Burm.
	Found in East Himalaya, East Bengal, Burma and South India.
	(Specimens wanted.)
	GARDENIA.
528	Gardenia costata, Roxb., Rubiaceæ.
•	Syn.—G. CORUNARIA, Ham.
	Vern.—Yengkhat, tsaythambyah, Burm.
	A small deciduous tree of Chittagong and Burma. Wood light-brown, hard, close-grained. Weight 51 lbs. per cubic
	foot.
	Used for making combs and for turning, but liable to crack.
	B 284. Burma (1867) 50
(B 284. Burma (1807) 50 B 2540. " (1862)
	G. gummifera, Linn.
529	1
	Vern.—Dékámali, kamarri, HIND., GUZ.; Chitta matta, chittuityal gaggaru, Tel.; Bururi, burúi, Kol.; B. uru, Bhumij; Chitta, bikke kambi, Kan.
	A large shrub of Central and South India.
	Wood yellowish-white, hard, close-grained.
	Might serve as a substitute for boxwood. C 3465. Bandgaon, Singbhum, Chutia Nagpur.
700	
530	G. latifolia, Aiton, Roxb.
	Vern.—Pápra, páphar, pepero, ban pindálu, Hind.; Pannia bhil, gúngat bhandara, geggar, Gond.; Phiphar, mali, Baigas.; Kumbay, Tam. Papra papadar, popra, Kharwar, Popro, Sonihal; Pempri, Mal (Chutia Kagpur); Pedda karinga, pureea, bikki, gaiger, Tel.; Kota
	Papra papadar, popra, KHARWAR; Popro, SONTHAL; Pempri, MAI
	ranga, URIYA; Ghogar, gogarli, MAR.; Gogar, BHIL.
	A small deciduous tree, found in the sub-Himalayan tract from the
	Jumna eastwards, in Bengal, Central and South India.
	Wood light-yellowish-brown, close and even-grained, hard, hand somely mottled, neither warps nor splits. No heartwood. Weight 50
	to 53 lbs. per cubic foot.
	The wood is easy to work, durable, and is recommended to be tried
	as a substitute for boxwood; it is likely to be very good for engraving
•	and turning. Combs are made of it.
-	B 1173. Ahiri Reserve, Central Provinces 53
	B 2733. Moharli Reserve, Central Provinces 50

	en: 1			• ,	· D 1
	Timbers.	بربر خاند اداخت			PART V
•		•			GARUGA
Gardenia lucida, Rox	ð . ●	•	1		531
Syn.—G. RESINIFER			•		
C.P.; Papar, Bi Kumbi, TAM.	HIND., GUZ.; Konda (JERAGOGARH; Karinga	karaın _ı	gi, tella-i	manga, TEL.;	
	tree, found in Cent	tral and	South	India, and	
rings. • Weight 39 lbs. It is useful for turni	te, close-grained, hard per cubic foot. ng; it is made into co eserve, Central Provir	mbs.	rtwood,	no annual	•
G. obtusifolia, Roxb.					532•
Vern.—Yengkhat, E	Burm.				30-
A small deciduous t	ree of Burma.				
cubic foot.	ately hard, even-grain Division, Burma.	ned. \	Veight	55 lbs. per 1bs. 55	•
	· Division, Darina i	•	•	30	533
G. turgida, Roxb.	khúrrúr, khuriari, gh uduri, Kol.; Dianki, c			June Deni	333
A small deciduous the Jumna, ascending t and South India. Wood close-grained annual rings indistinct.	, hard, white with a pr	iengsane nalayan itana, B irplish t	e, Bukm tract fro urma, a	om Nepal to and Central	
O 541. Dehra	Dún	0		lba.	
O 1377. Gonda,	Oudh	:		60	
O 1377. Gonda, O 1463. Bahrai	ch, Oudh			•••	
O 1489. Kheri,		•		50	
C 2779. Melgha	arh Reserve, Berar . it. Berar	•	•	54 58	
C 1142. Ahiri F	Reserve, Central Provid	nces	: :	54	
W 993. North I	Kanara	• _		48	ł
name Gorahadu, have t	1309 (61 and 63 lbs.) he same structure as, a Reserve, Palamow.	sent fro nd prob	m Gums ably are	our under the this species.	
•	GARUGA.				
Garuga pinnata, Rox	b Burseraceæ.				
Vern.—Kharpa', k Gurja, BANDA; Koll.; Killur, I GOND; Kosoma Júm, kharpat, n dabbi, Nepal; GARO: Mroune-	atúla, kilmira, sarota, Kakar, kaikra, ghunje KHARWAR; Karúr, BH KHARWAR; Kosram ail bhadi, BENG; Mohi Maldit, LEPCHA; Gen Shisha, MAGH; Garuga, KURKU; Karre ve	n, mahái UMIJ an Iba, MAI J, URIYA deli pom	rut, C. I d Sonih . (Chuii ; Gía a, Ass. Tel.:	.; Nia jowa, IAL; Gharri, IA NAGPUR); MECHI; Dab- ; Chi- tompa, Gibni. bebra.	534
	tree of the sub-Him	alaya,	Central	and South	

	2cononico 1 romanos oy 1maiar
GIVOTIA.	
•	Sapwood large, heartwood reddish, moderately hard. Weight from 40 to 50 lbs., generally 40 lbs. The wood is not durable, but it seasons well. It is used occasionally for house-building and for fuel.
·	O 225. Garhwal (1868)
	GIGANTOCHLOA.
535	Gigantochloa andamanica, Kurz., Grammer. Vern.—Podák, And.
	An evergreen tufted bamboo of the Andamans. Stems 20 to to feet, rather hollow, and small. Leaves used for thatching. (Kurs.) B 1331. Andamans.
	(Specimens wanted.)
536	G. auriculata, Kurs. Vern.—Ta-la-ku-wa, Burm. An evergreen arboreous tufted bamboo found in the low forests of Southern Pegu, but rather rare; cultivated in villages of Arracan and Chittagong. The stems are 30 to 40 feet high and 2 to 4 inches in diameter; verstrong. (Kurs.)
	(Specimens wanted.)
537	G. macrostachya, Kurz. Vern.—Madi, Magh.; Wa-net, Burm. An evergreen arboreous tufted bamboo, not unfrequent in the tropical forests of Martaban and Tenasserim; also cultivated in villages of the Irrawadi Valley, and of Arracan. Stems 30 to 50 feet high, 3 or 4 inches in diameter, amply hollow, walls 1 inch thick. (Kurz.) B 1314. Toungoo.
	(Specimens wanted.)
	GIVOTIA.
√ 538	Givotia rottleriformis, Grif., Euphorbiace E. Vern. — Vendale, butalli, bulali, Tam.; Tella púnki, Tel. A middle sized tree of the Dekkan, Mysore, Eastern Ghâts, and Ceylon. Wood white, exceedingly light, very soft, but even-grained. Weight 14 lbs. per cubic foot. It is used to carve figures, for toys, imitation fruit, and other fancy articles, which are lacquered and painted; also for catamarans.

D 3152. Cuddapah, Madras

Timbers.	PART
	GMELI
GLUTA.	. '
Gluta elegans, Wall., ANACARDIACEE. Vern.—Thayet-thitsay, Burm. A small evergreen tree found along the coast of Tenasserim. Kurz in his Burmese Flora, I, p. 310, remarks of this plant: "Wood	-539
good for furniture, and when steeped in ferruginous mud turns jet black, looking like ebony. "It is used for building purposes, boxes, &c."	
G. Tavoyana, Wall. (SYNDESMIS.) Vern.—Thayet, thitsay, BURM.; Ohay, thoomay, KAREN. A small tree with white branches; met with at Tavoy. Heartwood bright-dark-red, close-grained, not so motiled with dark and light streaks as G. travancorica. The wood floats when seasoned, and is very durable, but brittle.	540
B 3701. Tenasserim (Mr. Hill, 7-'82) 52	
G. travancorica, Beddome. Vern.—Shencurungi, Tinnevelly. A very large evergreen tree of the Ghâts of Tinnevelly and Travancore. Sapwood light-reddish-grey; heartwood dark-red, very hard and close-grained, beautifully mottled with dark and light streaks. Weight	54 1
40 to 58 lbs. The wood is little used, but its splendid colour and markings should rapidly bring it to notice as a valuable wood for furniture. It seems to season very well, and works and polishes admirably.	
D 1066. Tinnevelly (some sapwood)	•
GLYCOSMIS.	
Glycosmis pentaphylla, Correa, Rutachæ. Vern.—Ban nimbre, potali pilru potala, girgitti, Hind.; Kirmira, Bom.; Tanshouk, Burm.	542
A common evergreen shrub of the tropical and sub-tropical Hima- laya up to 7,000 feet in Sikkim; ranging from the Sutlej river in the North-West southwards to Upper Assam; Travancore, Malacca and Ceylon.	
Wood white, hard, close-grained. E 3284. Chittagong.	
GMELINA.	
Gmelina arborea, Roxb., Verbenaceæ. Vern.—Gumhár, khamara, kambhar, kúmar, gambari, sewan, shewan, Hind.; Gúmár, gúmbar, Beng.; Gambari, Nepal, Uriya.; Gomars, Ass,; Numbor, Lepcha; Gumai, Cachar; Bolkobuk, Garo; Gumadi, cummi, Tam.; Gúmar-tek, peddagomru, tagumúda, gumudu, Tel.;	543

cummi, 1AM.; Gumar-tee, peadagomru, tagumuda, gumudu, Tel.; Shewney, kuli, KAN.; Shewan, MAR.; Chimman sag, Bhilik Kubuliu, MAL.; Kurse, Gond; Kassamar, Kurku; Kasamar, Kol. and Sonthal; Gamhari, MAL (Chutia Nagpur) At-demmata, Cingh.; Ramani, Magh.; Yamaney, Burm.

A moderate sized or large deciduous tree met with in the sub-Hima-

GNETUM.

layan tract from the Chenab eastwards and throughout India, Burma, and the Andaman Islands.

Wood yellowish, greyish or reddish-white with a glossy lustre, close and even-grained, soft, light and strong, durable, does not warp or crack. Annual rings marked either by a white line or by more numerous pores

in the spring wood. Weight 30 to 40 lbs. per cubic foot.

The wood is easily worked and readily takes paint or varnish; it is very durable under water. It is highly esteemed for planking, furniture, domestic utensils, coor panels, carriages and palanquins, well-work, boats, toys, packing cases, and all ornamental work; it is used in Burma for carving images, clogs, and canoes. It would probably be a valuable wood for tea-boxes. It is the chief furniture wood of Chittagong, and is in some demand in Calcutta. Writing in May 1829, in Gleanings in Science Captain Baker the Superintendent of Suspension Chain Bridges, spoke of Gumbhar wood as "well calculated for light planking, panelling, blinds and venetians, and of much estimation for picture frames, organ pipes, sounding boards, and other such work where shrinkage is to be avoided," so that it has evidently been long known in the Calcutta

				Ino.
O 325.	Garhwal (1868)	•		33
O 343.	Gorakhpur (1868)	•		32
O 1372.				40
	Bahraich, Oudh			38
O 1483.	Kheri, Oudh			39
C 182.	Mandla, Central Provinces (1870)			35
C 1129.	Ahiri Reserve, Central Provinces			•••
C 835.	Bairagarh Reserve, Berar .			45
C 2775.	Melghát, Berar	•		38
	Guzerat, Bombay	•	-	34
C 959.	Whends Forests Origon	•	•	
C 3549.	Khurda Forests, Orissa	•	•	37
E 676.	Bamunpokri, Darjeeling Terai.	•	•	41
E 2396.	Sivoke Forest,			35
E 948.	Eastern Dúars, Assam	•	•	36
E 2103.	Nowgong, Assam			39
E 2303.	Kámrúp	•		37
E 1435.	Assam			31
E 1390.	Chittagong			33
E 3605.				-
E 3620.	Darjeeling Terai.			
	Burma (1867)	•	*	28
	Tharrawaddy, Burma	•	•	
E 3603.	Chittagong Hill Tracts.	•	•	35
E 3003.	Chillagone fill I facts.			

GNETUM.

Gnetum scandens, Roxb., GNETACEE.

Vern. — Wanuwiti, Sylhet; Kumbal, umbli, Bom.; Gyootuway, Burm.

A stout scandent shrub, native of the hilly parts of Chittagong and the eastern parts of Bengal, as well as Malabarand the Moluccas; met

with also in the Sikkim hills at 4,000 feet altitude.

Wood dark-brown, soft, arranged in concentric rings, separated by a band of cellular pith-like tissue, which runs star-ray-like into the bands from the inner edge and so divides them up into wedge-shaped sections. Pores large, medullary rays none, cells distinctly visible under the lens.

E 3727. Rungbi, Darjeeling, 4,000 feet.

Timbers.	PART VI
	GREWIA
GOSSYPIUM.	
Gossypium arboreum, L., MALVACEE. Vern.—Nurma barre, nurmah, HIND.; Shem paratie, TAM.; Deo kurpas, Mysore; Kapas, PB. A shrub or low tree, rarely a herb, met with in the plains of India in gardens, but not generally cultivated.	.545
(Specimens of this plant, including the wood, are wonted.) G. Stocksii, Mast. STOCK'S COTTON TREE. Vern.—	546
A straggling shrub of the lime-stone rocks on coasts of Sind. (Specimens wanted.)	. 1
GREVILLEA.	
Grevillea robusta, Kunn., PROTEACEE. THE SILK OAK. Vern.— A native of Australia; grows well in India; a fine avenue may be seen in the Calcutta Botanic Gardens running toward the great Bany-	547
an tree. Wood hard, light-reddish-brown, sapwood greyish-white. The heart-wood seems durable, but the sapwood decays quickly. It would be a handsome furniture wood. lbs.	
O 3263. Saharanpur. E 3717. R. B. Gardens, Calcutta 36	•
• GREWIA.	
Grewia asiatica, Linn., Malvacee. Vern.—Phalsa, pharoah, Hind., Sind., Pb.; Philase, Bom.; Shukri, Beng.; Phutiki or Putiki, Tel.; Dhamru, Ajmere. A small, hazel-like tree cultivated throughout India, said to be indigenous in the Salt Range, Poona, Oudh and Ceylon. Wood yellowish-white, structure similar to that of G. vestita. P 470. Ajmere. P 3218. Nagpahar, Ajmere. P 3235. Goran Hills, Ajmere.	548
G. multiflora, Juss. Syn.—G. SEPIARIA, Roxb. Vern.—Pansaura, Hind., Beng.; Nilay, Nepal. A shrub or small tree of the outer Himalaya from Nepal eastwards ascending to 4,000 feet, and of the Khásia Hills. Wood white, soft, similar in structure to that of G. oppositifolia, but	549
with smaller pores. Used in Bengal for making hedges, for which it is very useful.	
E 2327. Sivoke, Darjeeling Terai	

GREWIA.	
550	Grewia oppositifolia, Roxb.
	Vern.—Dhumman, pharwa, PB.; Biúl, biúng, bahúl, bhengal, bhenwa, bhimal, HIND.; Pastuwannee, AFG.; Bieul, SIMLA.
	A moderate sized tree of the North-West Himalaya, from the Indus to Nepal, ascending to 6,000 feet; also frequently cultivated. Wood white, with a small mass of irregularly-shaped heartwood, hard, giving out an exceedingly unpleasant odour, especially when fresh cut. Weight 45 to 50 lbs. per cubic foot. The wood is used for oar-shafts, handles, bows, &c., and for most purposes for which elasticity and toughness are required.
•	H 100. Bhajji, Simla, 4,000 feet
551	G. orbiculata, Rottle.
	A shrub of the Western Peninsula, nearly allied to G. tiliæfolia.
552	G. pilosa, Lam. Syn.—G. CARPINIFOLIA, Roxb. Vern.—Posangni, AJMERE; Sitarga, SONTHAL. A shrub with four-angled stem and brown bark found in the plains of the North-West, Central and South India. Wood yellowish-white, hard, divided into triangular wedges proceeding from the centre towards the four corners and sides. P 3230. Nagpahar, Ajmere. P 3256. Goran Hills, Ajmere.
553	G. polygama, Roxb.
•	A shrub or small tree of N. W. India, and along the Himalaya from the Salt Range to Nepal ascending to 4,000 feet; of Konkan, Pegu, and Ceylon. Wood resembles that of G. oppositifolia, but is free from unpleasant odour.
	E 3813, Punkabari, Darjeeling, 3,000 feet, is probably this species (Specimens wanted.)
554	G. populifolia, Vahl. Vern.—Ganger, PB.; Gango, SIND; Gangerun, RAJPUTANA. A small shrub, with grey bark, met with in the arid zone, in the Punjab, Sind, and Rajputana. Wood yellow, hard, close-grained. Growth very slow. The wood is used for walking sticks. P 3228. Nagpahar, Ajmere.
	G. salvifolia, Heyne.
555	Vern.—Bather, nikki-bekkar, gargas, PB.; Saras, AJMERE; Yára, CIRCARS Dhattiki, URIYA; Sitanga, SONTHAL; Bursu, sita pelu, Kol.; Khorkorend na, MAL. (CHUTIA NAGPUR.) A small tree found in the Punjab, Sind, Central Provinces, and Southern India. Wood yellow, heartwood orange-brown, hard, close-grained, structure similar, to that of G. tiliæfolia, but medullary rays more numerous and pores smaller.
	P 3227. Nagpahar, Ajmere. P 3237. Goran hills, Ajmere. C 3457. Barasand Reserve, Palamow, Chutia Nagpur.
	· 134

Timbers.	[PART VI
	GUETTAR- DA.
Grewia tiliæfolia, Vahl.	556
Vern.—Pharsa, dhamin, HIND.; Khesla, kasúl, Gond.; Olat, Sonthal; Dhamni, Kurku; Charachi, tharrá, Tel.; Dhamono, dhaman, Uriya; Thaasal, batala, Kan.; Dámana, karakana Bom.; Damnak, Bhil; Daman, Mar.; Sadachu, Mal.; Daminne, Cingh; Tarada, Madura. A moderate sized tree of the sub-Himalayan tract, from the Jumna to	
Nepal, ascending to 4,000 feet; also of Central and South India. Sapwood white; heartwood small, brown, close-grained, hard. Weight 34 to 48 lbs. Used for shafts, shoulder poles, masts, oars, and all purposes for which	, ,
elasticity, strength, and toughness are required.	
C 188. Mandla, Central Provinces (1871)	•
G. vestita, Wall.	557
Syn.—G. ELASTICA, Royle; G.IASIATICA, Linn. var. Hook, (Fl. Ind., i, 387. Vern.—Farri, phalwa, dhamman, PR.; Pharsia, dhamún, bimla, Hind.; Poto dhamun, Palamow; Sealposra, Nepal; Pershuajelah, Mechi; Kinsúng, Lepcha; Pintayan, Burm. A small tree of the sub-Himalayan tract from the Indus eastwards, Bengal, Central India, and Burma. Wood greyish-white, hard, and close-grained. Annual rings wavy. Weight about 50 lbs. Wood tough and elastic, used for shoulder poles, bows, spear handles &c. Splits well, and is sometimes used for shingles.	
E 651. Bamunpokri, Darjeeling Terai 43 E 2325. " "	•
GUAZUMA.	-
Guazuma tomentosa, Kunth., Sterculiacer. The Bastard Cedar. Vern.—Thain puchie pattai, Tam; Rudracks-hachettu, Tel. A tree, stallately hairy upon the young twigs. Perhaps only introduced into India, and probably a native of the West Indies. Frequently cultivated in the warmer parts of the plains and in Ceylon; distributed to Java and tropical America. Dr. Royle says it is "a South American tree, introduced into India, and largely cultivated at one time in the Madras Presidency, under the name of Bastard Cedar, as a fodder for cattle." Weight, according to Skinner, 32 lbs. Wood used in Southern India for furniture and packing cases (Specimens and further information wanted.)	
GUETTARDA.	
Guettarda speciosa, Linn., Rubiacez. Vern.—Domdomah, And.; Nil pitcha, Cingh. A moderate sized evergreen tree found in tidal forests along the shores of the Andaman Islands and Ceylon.	. 559

PART'VII.] · Economic Products of India.
HÆMA- TOXYLON.	Wood yellow, with a tinge of red.
•	B 1971. Andaman Islands (Kurs, 1866) 49 4Specimens wanted.)
	Gunpowder-charcoal— List of woody plants used in the manufacture of. See APPENDIX.
·	• GYMNEMA.
,560 • .	Gymnema tigens, W. & A., ASCLEPIADEÆ.
	A climbing shrub of the lower Eastern Himalaya, extending to Burma. (Specimens wanted.)
	GYNOCARDIA.
561	Gynocardia odorata, R. Br., Bixiniæ. Syn.—Chaulmoogra adorata, Razb. Vern.—Chaulmágni, petarkura, Beng.; Kadu, Nepal; Túk, Lepcha Toungpung, Magh.
	A moderate sized evergreen tree, readily known by the hard, round fruits which grow on the stem and main branches. It is found in Northern and Eastern Bengal and Assam, Chittagong, and Burma. Wood hard, close-grained, yellow or light-brown. Weight 47 lbs.
•	per cubic foot. It is used in Chittagong for planking and for posts.
	E 708. Chittagong 47
	GYROCARPUS.
562	Gyrocarpus Jacquini, Roxb., Combretacer. Vern.—Zaitun, Hind.; Tanaku, kumar pulki, Tel.; Piplay thitkouk, Burm. A deciduous tree of South India, Tenasserim and Andaman Islands Woodgrey, soft. Weight 23 lbs. per cubic foot.
	It is used in South India to make boxes and toys, and is preferred to all others for cottamarans.
	D 1079. North Arcot, Madras
	HÆMATOXYLON.
-60	Hamatotylon Campechianum, Linn., Leguminos E.

Hæmatoxylon Campechianum, Linn., Leguminosæ.

Logwood.

A'native of Central America and the West Indies, imported into India.

136

	Tim	ibers.		•]٠	PART	VII
•							HEDG	ES.
	HARD	WICKI/	A.	•				•
Hardwickia his				•	•		-6.	,
Vern.—Anja Kamra, Parsia, A deciduou India, but not patches of grea but also to be moist zone, an north as the Ba Sapwood sr with a purplish per cubic foot. extremely dur At the Deh for machinery, piles of anjan put in. It is the	mata, Roxb., LEGU m, HIND., MAR.; A karachi, KAN.; Ch SINGROWLI. is tree, found in the everywhere; gen ater or less extent. met with on trap and d not found in Nort anda district of the linall, white; heartwo tinge, cross, and ve Perhaps the hard able, liable to spli ri workshops it has b and has been found sed for bridge and h commended for sleep	cha, alti, ahota dunce dry fore erally gree Most comd granite, hern India North-Wee est and het, but does een used ind to wea after 20 you nouse post	ests of egarious monly. Was a, thou estern a, thou estern arined. Early harained. Early harained ar well. Ears as s, and	South is in isolated in its in isolated in its in i	and (and (and (the v ccurs k red about India for be Sone s whe nental	Central celts or dstone, vestern as far , often 82 lbs a; it is earings e River n first work,	564	•
C 800. C 1147. C 2986. C 2929. D 1055. D 2025. No. 31. H. pinnata, Ro. Vern.—Ko. MANJAR A very larg Travancore. Sapwood la	Nimar, Central Pro Palamow, Bengal Salem, Madras Mysore Salem Collection	Central Provinces	mpráni ts fron	TRAVAN	Kan:	Yenne, ara to	565	
resins dissolved	l in an essential oil. for building by coff	Weight	47 lbs.	per cub	ic foot	•		
D 1064.	Tinnevelly .	•		•	1bs	- 1		
-				_				
	· HEI	ERA.		•		1		
Ivy.	Linn., ARALIOCEA		,	•			566	
kaniun, A large woo between 3,000;	albambar, arbambal, CHENAB; Kuri, karúr, kadloli, SUTLEJ; Ba od climber of the I and 9,000 feet, and o e, soft, porous. We	maa, Kuma Timalaya i of the Kha	from thasia Hi	e Indus	to B	hutan		
H 3010. Hedges—	Mashobra, Simla, Kotgarh, Simla, 7,	,500 feet	•	:	1bs			

e e	
НЕРТА-	,
PLEURUM.	· · · · · · · · · · · · · · · · · · ·
•	. HELICIA.
567	Helicia robusta, Wall, PROTEACEE. Vern.—Yoweea, Sylffet; Tegela mugu, Kan.; Doukya beng, Burm. A small evergreen tree of the hills of Bengal, Burma, and Southern India. Wood pinkish-grey, moderately hard. Weight 44 lbs. per cubic foot.
	E 240q. Sumbong, Darjeeling, 2,000 feet 44
•	HELICTERES.
568 ,	Helicteres Isora, Linn., Sterculiaceæ, Vetn.—Maror-phal, jonkaphal, kapasi, bhendu, Hind; Antmorá, Beng.; Ainthia dhamin, Monghyr; Renta, sakomsang, Kol; Aiteni, Kharwar.; Pecthmura, Sonthal; Mori, Mal. (S. P.); Muri-muri, Uriva; Itah, Godavari; Aita, Gond; Gubadarra, kavanchi, Tel.; Kewan, kevana, (the fruit—murudasanga), Bom.; Kori-buta, Kurku; Anteri, Banswara; Thooggnachay, Burm.
	A large, dense shrub of the tropical or sub-Himalayan regions, from the Punjab to Bengal, South and Central India, and Burma. Wood white, soft. Weight 35 lbs. per cubic foot. The branches are used for fuel, fencing and thatching. C 987. Bairagarh Reserve, Melghát. C 2804. Melghát, Berar
	HELWINGIA.
5 6 9	Helwingia himalaica, Hook. f. and Th., ARALIACEE. Vern.—Lubbor, Lepcha. A large shrub of the Eastern Himalaya, above 7,000 feet, and of the Khásia Hills. Wood white, moderately hard, pith large. E 3342. Darjeeling, 7,000 feet.
	HEMITELIA.
570	Hemitelia decipiens, J. Scott, FILICES.
	A large tree fern, common in the Khasia Hill and the hills of Sikkim up to 6,000 feet. E 3423. Balasan Valley, Darjeeling, 5,000 feet. E 3424. Dumsong, Darjeeling, 5,000 feet.
	HEPTAPLEURUM.
571	Heptapleurum elatum, C. B. Clarke, ARALIACEE.

Vern .- Chinia, NEPAL.; Prongsam, LEPCHA.

A tree of the Himalaya, from Kumaun to Bhutan, between 5,000 and 7,000 feet.

Wood white, soft. Structure similar to that of Macropanax undulatum.

E. 3326. Rangirum, Darjeeling, 6,000 feet.

3417. Darjeeling, 6,000 feet. 138

Timbers.	PART VI
Heptapleurum impressum, C. B. Clarke.	HETERO- PHRAGMA 572
Vern.— A tree of the Sikkim Hills above 7,000 feet. Wood grey, soft. E 3635. Goompahar Forest, Darjeeling, 7,500 feet. H. venulosum, Seem. Vern.—Sukriruin, Kol. An evergreen climbing shrub frequent in the mixed forests all over Burma, from Chittagong and Ava down to Tenasserim and the Andamans. Also found extending to Bengal, Kumaun and South India. Wood light-brown, soft. C 3412. Neturhút, Palamow, 3,000 feet.	İ
HERITIERA.	•
Vern.—Sunder, sundri, Beng.; Penglai-kanaso, Burm.; Mawida, And. A small gregarious tree found in the coasts and tidal forests of Bengal, the Peninsula, Burma, and the Andaman Islands. Sapwood white; heartwood dark-red, very hard, close-grained. Weight approximately 65 lbs. Sundri wood is durable; it is heavy and does not float, and is extremely tough. It is used for a great variety of purposes, such as beams, buggy shafts, planking, posts, furniture, firewood; but chiefly in boat-building, for which purpose it is very extensively used in Calcutta, and particularly in the Government Dockyard at Kidderpore. It is the chief timber of the Sundarbans forests. Its reproduction is most favourable. On all lands flooded by ordinary flood tides, a new growth of jungle springs up immediately; but on land ordinarily above high-water mark, it only establishes itself by slow degrees. It soon spreads itself on newly formed islands on the sea edge of the forests. E 401. Sundarbans	574
B 2285. ", " (1866)	575
HETEROPHRAGMA. Heterophragma adenophylla, Seem., BIGNONIACEE. Vern.—Petthan, BURM.	576
A moderate sized deciduous tree met with in Burma and Andaman Islands.	

HIPPO-	
PHÆ.	Wood yellowish-white, moderately hard. Weight 41 lbs. per cubic
•	foot.
•	B 1421. Tharrawaddy, Burma
577	Heterophragma Roxburghii, DC. Syn., Spathodea Roxburghii, Spreng.; Bignonia quadrilocularis, Roxb.
•	Vern.—Baro-kala-goru, TAM.; Bondgu, TEL.; Pullung, warras, MAR. A large tree met with in Chanda District, Godavari forests, and Western Coast.
(Wood grey, rough, moderately hard. Weight 40 lbs. per cubic foot.
	C. 1106. Ahiri Reserve, Central Provinces 40
578 [.]	H. sulfurea, Kurs. Vern.—Thitlinda, Burm. A deciduous tree met with in Burma, chiefly in Prome district. Wood dark-grey, soft, even-grained, in structure resembling that of H. Roxburghii. Weight from 40 to 60 lbs.
	B 2547. Burma (1862) 42
	. HIBISCUS.
579	Hibiscus macrophyllus, Roxb., Malvacer. An evergreen tree, a native of Eastern Bengal and the Eastern Peninsula. Kurz says its Burmese name is Yet woon, and that the liber yields a strong fibre. It is called Kachia udal, Kasaya palla in Bengal. Sapwood white, heartwood light, purplish-brown, soft, even-grained. E. 3289. Rinkheong Reserve, Chittagong. (Specimens wanted.)
580	H. tiliaceus, Linn. Vern.—Bola, chelwa, Beng.; Thengben, thimban, Burm.; Beligobel, bellipatta, Cingh. A much branched bush of the Coasts of India, Burma, and Ceylon.
	Weight 35 to 38 lbs. per cubic foot. The wood is not used except as fuel. Said to be used in Tahiti for planking and light boats.
	E 405. Sundarbans 35 No. 7. Ce./lon Collection (marked Paritium tilia- ceum) 38
	HIPPOPHÆ.
581	Hippophæ rhamnoides, Linn. ?
	Vern.—Tsarap, tsarma, sirma, tsúk, tarru, niechak, tserkar, tsermang, LADAK, PITI, and LAHOUL.
•	A large thorny shrub, sometimes a small tree met with in the inner tract of the North-West Himalaya, chiefly in moist, gravelly streambeds, from 5,000 to 10,000 feet.

•	HOLAN
Heartwood yellowish-brown, mottled, moderately hard, close-grained. Weight 38 to 54 lbs.	DEMA
It is used for fuel and charcoal, and the dry branches for hedges. It is very valuable in the dry, almost treeless tracts of the Inner Himalaya.	•
H 135. Lahoul, 10,000 feet	
•	1
HIPTAGE.	
Hiptage Madablota, Gærin., Malphigiaceæ.	582.
Syn.—Gaertnerea racemosa, Roxb. (Fl. Ind. ii. 368.)	
Vern.—Kampti, madmalti, HIND.; Endra, chopar benkar, Khuma, PB.; Shempatti, Nepal; Haladwail, Mar.; Madúbhlúta, Beng.; Boromali, Uriya.	•
A common climbing shrub of most parts of India and Burma. Wood red in the centre, yellowish white in the outer portion; moderately hard.	
O 3655. Saharanpur, N. W. P.	
HOLARRHENA.	
Holarrhena antidysenterica, Wall., Apocynacez.	583
Vern.—Karra, kaura, kora, kúra, kúar, kari, karchi, dhúdi, Hind.; Korkoria, Oraon; Kurchi, Bhumij: Towa, kuti, Kol; Kuria, Kar. War; Pita, korwa, patrukurwan, Uriya; Kogar, kiam, PB.; Kachri, Oudh; Samoka, girchi, Gond; Kurakat, Kurku; Ankhria, Bhil; Dhowda, Gur.; Kirra, karingi, Nepal; Dudalı, dudhkuri, Mechi; Dudcory, Ass.; Madmandi, Garo; Vepalı, Tam.; Pala, kodaga, Tel.; Kurra, Mar.; Lettoukgyee, Burm.	3 -3
A small deciduous tree found in the sub-Himalayan tract from the	
Chenab eastwards ascending to 3,500 feet, in Oudh, Bengal, Central and South India.	•
Wood white, soft, even-grained. Weight about 40 lbs. per cubic foot. The wood is largely used for carvings, especially at Saharanpur and	
Dehra Dún; in Assam for furniture; in South India for turning.	
O 258. Garhwal (1868)	
O 3083. Gonda, Oudh	
C 2801. Melghat, Berar	
C 2724 Moharli	
C 957. Guzerat	
No. 52. Salem Collection (marked Wrightia tinc-	
C 3558. Khurda Forests, Orissa	
H. mitis, R. Er.	584.
Vern.—Kiriwalla, Cingh.	Joh
A tree of Ceylon. Wood white, close-grained, soft, in structure resembling that of	
A. antidysenterica.	
No. 46. Ceylon Collection (Echites lanceolata) . 35 (Specimens wanted.)	•

	4								
HOMONO-									
. * ***	HOLIGARNA.								
585	Holigarna longifolia, Roxb., Anacardiacra. Vern.—Barola, Benc.; Khreik, Magh.; Hátugiri, Bom. A tall tree, native of Eastern Bengal, Chittagong, and Pegu. The Bombay for m seems most probably to be H. Arnottiana, Hook. f. Wood grey with yellowish streaks, soft; not used. E 3287. Rinkheong Forest, Chittagong.								
	HOMALIUM.								
` 586	Homalium tomentosum, Bth., Samydacer. Syn.—Blackwellia tomentosa, Vent. (Brandis' Burma Catalogue, 1862, No. 58.) Vern.—Myoukshaw, Burm. A large deciduous tree of Chittagong and Burma. Wood brown, with dark-coloured heartwood, very hard, heavy and close-grained; splits in seasoning. The wood is durable and is used for the teeth of harrows and for furniture. B 331. Burma (1866) 63 B 2534. " (1862)								
¢	HOMONOYA.								
587	Homonoya riparia, Lour., Euphorbiace E. Syn.—Adelia neriifolia Roxb. (Fl. Ind., iii, 849.) Vern.—Kandágar, Kumaun; Khola ruis, Nepal; Mongthel, Lepcha; Taniki, Tell.; Sundeh, Gond; Jeljambu, Kurku; Kat-alluri, Mal.; Momakha, yay-tagyeeben, Burm. A small shrub found on the rocky and stony river beds throughout India. Wood grey or greyish-brown, moderately hard, close-grained. Weight 40 lbs. per cubic foot. E 3303. Sivoke, Darjeeling Terai 40								
588	H. symphylliæfolia, Kurz. Vern.—Bajadanti, Nepal; Ching, Lepcha. A moderate sized evergreen tree, found in the damp forests of the Lower Darjeeling hills. Wood yellowish-white, hard, smooth, close-grained. Weight 54 to 59 lbs. per cubic foot. The section of the stem is very irregular, presenting deep sinuosities. The wood is hard and tough, and is used for punting poles by the Tista bootmen. It is recommended for trial as a substitute for boxwood. E 496. Khookloong Forest, Darjeeling 54 E 2429. Tista Valley, near Sivoke, Darjeeling 59								

Timbers.	. [PART VII
HOPEA.	HYDRAN- GEA.
•	589
Hopea odorata, Roxb., DIPTEROCARPEE. Vern.—Thingan, Burm.; Rimda, And.	,
A large evergreen tree found scattered in the evergreen forests of British Burma and the Andaman Islands. Wood yellow or yellowish-brown, hard, close, and even-grained	
Weight about 50 lbs. Very durable, e. g., the specimens brought by Wallich from Tavo in 1828, which, though now 50 years old, are perfectly sound and good Boats made of it are said to last 20 years. It is the chief timber tre of Southern Tenasserim. It is used for house-building and canoes also considered good for solid cart wheels.	l. e
B 282. Burma (1867)	}
B 285. ,, ,,	, ,
B 2500. Burma (1862)	
B 2698. Tavoy (<i>Wallich</i> , 1828)	
B 2716. ", ", ", 56	
B 511. Andaman Islands	
H. sp.	590
Vern.—Thing anshway. A tree met with in narrow belts along streams. The wood is in great demand for boat hulls. (Burma Forests Report 1880-81, p. 13). B 3702. Burma.	
H. parviflora, Beidome. Vern.—Kiral boghi, tirpu, KAN. ; Irubogam, MAL.	591
A large tree of the western moist zone, of Malabar and South Kanara, up to 3,500 feet. Wood brown, hard, and close-grained. weight 62 to 63 lbs. The wood is of good quality, though scarcely known; it is valued in South Kanara for building temples, and may be found useful for	1
sleepers.	
W 745. South Kanara 62 W 759 , 63	
HYDRANGEA.	
Hydrangea robusta, Hook. f. and Th., SAKIFRACEE. Vern.—Bogoti, NEPAL.	592
A small deciduous tree, found in the Eastern Himalaya and Sikkim, from 5,000 to 7,000 feet, generally as undergrowth in the oak forests. Wood white, moderately hard, close-grained. Weight 42 lbs. per cubic foot.	1
E 2370. Rangbúl, Darjeeling, 7,000 feet	593

RT'VII.].

IC	HNOCAR-
	PUS.

Wood pinkish-white, moderately hard. Weight 45 lbs. per cubic foot-E 373. Tonglo, Darjeeling, 10,000 feet . 45

HYMENODICTYON.

504

Hymenodictyon excelsum, Wall., Rubiace E.

Syn.—Cinchona excelsa, Roxb. (Fl. Ind., i, 529.)

Vern.—Bartu, barthoa, PB.; Bhaulan, bhalena, bhamina, dhauli, kükürkat, bhürkür, phaldu, bhobar, potür, HIND.; Dondru, dandelo, PANCH MEHALS; Bhoursai, MAR.; Kala kadu, Bom.; Sagapu, TAM; Dudiyetta, dudippa, chetippa, burja, bandara, TEL.; Bodoka, konoo, URIYA; Manabina, KARNUL; Sali, KOL.; Burkunda, BHUMIJ.

A large deciduous tree, 30 to 40 feet high, met with on the dry hills at the base of the Western Himalayas, from Garhwal to Nepal, ascending to 2,500 feet; throughout the Deccan and Central India to the Anamalays. Also in Tenasserim and Chittagong. (Hooker.)

Wood brownish-grey, soft. Weight about 32 lbs. per cubic foot.

It is used for agricultural implements, scabbards, grain measures, palanquins, toys and similar articles.

	Garhwal (186º)				•	lbs. 28
O 350.	Gorakhpur (1868)					•••
	Bahraich, Oudh		•		•	32
O 1482.	Kheri, Oudh					34
C 1127.	Ahiri Reserve, Cer	ıtral	Provi	ices		32
	Khurda Forests, O					43

5

H. thyrsiflorum, Wall.

Syn.—CINCHONA THYRSIFLORA, Roxb. (Fl. Ind., i, 530.)

Vern .- Purgur, HIND. ; Khozan, BURM.

A large deciduous tree of Northern and Eastern Rengal and Burma.

Wood white or grey, soft. Weight about 30 lbs. Structure the same as that of H, excelsum.

It is used for black-boards and packing cases.

	-	•	_			lbs
E 1231.	Sibsagar, Assam	•				. 26
E 1286.	Cachar		•		•	• 34
B 279.	Burma (1867).					. 31
B 3070.	,, (1862).			•	•	· 🙀 38
B 559	Prome, Burma		•	•		• 33
B 2287.	Andaman Islands	•	•			• 34

ICHNOCARPUS.

596

Ichnocarpus frutescens, R. Br., APOCYNEÆ.

Syn.—Echites frutescens, Roxb. (Fl. Ind., ii, 12.)

Vern.—Dudhi, shyamá-lutta, Beng.; Srama, HIND.; Nalla-tiga, Tel.; Tan-sr-pai, BURM.

An extensive climber met with on the Western Himalayas, from Sirmoor to Nepal, altitude 1,000 to 2,000 feet; on the Upper Gangetic plains from Delhi to Bengal, Assam, Sylhet, Burma, Ceylon, and South India.

Wood white soft, without heartwood.

🕽 3469.

Timbers.	PART V
• 	INDIGO FERA:
ILEX.	
lex dipyrena, Wall., ILICINEE. Vern.—Shangala, kandlar, kalucho, diúsa, dodru, drúnda, PB.; Kaula, karaput, munasi, gulsima, NEPAL; Kandara, kadera, kateru, SIMLA. A small evergreen tree of the Himalaya, from the Indus to Bhutan above 5,000 feet.	597
Wood white, hard, close-grained Weight 46 lbs per cubic foot.	
H 21. Matiyana, Simla, 7,000 feet 46	
insignis, Hook. f. Vern.—Lasuni, Nepal.	598 •
A small evergreen tree, found near Darjeeling, above 6,000 feet. Wood white, soft, close-grained. Weight 40 lbs.	•
 E 355. Gumpahar Forest, Darjeeling, 7,000 feet . 40 E 3407. The Park, Darjeeling. H 256. Garhwal Hills may be a specimen of this species, or perhaps I. odorata, Ham. 	
i. theæfolia, Wall. Syn.—I. GAULTHERIÆFOLIA, Kurs. (245.) A moderate sized evergreen tree, found near Darjeeling and Khásia Hills, and Tenasserim. Wood white, soft, close-grained, with white concentric lines, which seem to correspond to annual rings. Weight 39 lbs. per cubic foot.	
E 692. Chuttockpur, Darjeeling, 6,000 feet 39 Implements, utensils, Machinery and general carpentry,— Woods used for. See Appendix.	
INDIGOFERA.	
Indigofera atropurpurea, Ham., Leguminosæ. Vern.—Bankati, kala sakena, sakna, Hind.; Khenti jand, Kaghan; Kathi, gorkatri, Kashmir. A small shrub of the Salt Range, from 2,500 to 5,000 feet, and outer Himalaya from the Jhelum to Nepal, ascending to 9,000 feet, but found as low as 1,200 feet on the Siwalik Hills. Wood similar to that of I. heterantha.	
H 2824. Cheog Forest, Simla, 7,000 feet.	
I. heterantha, Wall. SynI. Gerardiana, Wall. (Hook, Fl. Ind., ii, 100,var.) VernKati, khenti, mattu, kats, shágali, Pb.; Kathi, theot, Simla. A small shrub of the North-West Himalaya and eastern skirts of the Suliman Range, ascending to 8,000 feet. Wood hard, white, with an irregular heartwood of dark colour. Weight 56 lbs. per cubic foot.	1
H 2825. Fagu, Simla, 8,000 feet	,
K 145	,

JASMINUM. 602 Indigofera pulchella, Roxb. Vern .- Uterr, KOL; Jirhul, KHARWAR. The wood has a structure similar to that of I. heterantha. C 3447. Barasand Reserve, Palamow, Chutia Nagpur. 603 I. stachyodes, Ldl. Syn.—I. DORUK, Ham; var. TOMENTOSA, Baker. Vern. - Chiringi jhar, NEPAL. A small tree in the inner Eastern Himalaya, Khásia Hills, and Silhet. Wood hard, white, with an irregular dark-coloured heartwood. E. 3359. Rhenokh, Sikkim, 3,000 feet. ISONANDRA. 604 Isonandra obovata, Griff., Sapotace E. Vern.—P An evergreen tree of Tenasserim. B 2687. Tavoy (1828) is possibly this species. IXORA. 605 **Ixora parviflora,** *Vahl.*, Rubiaceæ. THE TORCH TREE. Vern.-Kota gandhal, Hind.; Rangan, Beng.; Pété, Kol.; Disti, Gond; Kurat, lokandi, Mar.; Shulundu kora, Tam.; Karipal, kachipadél, tadda pallu, Tel.; Kori, Gond; Korgi, Kan.; Tellu kurwan, Uriya; Maha ratambala, Cingh. £ An evergreen shrub or small tree of Bengal, Burma, Central and South India. Wood light-brown, smooth, very hard, close-grained. No heartwood. Weight about 60 lbs. per cubic foot. The wood is well suited for turning and might do for engraving. Beddome says it is used for furniture and building purposes. C 1156. Ahiri Reserve, Central Provinces. C 3464. Saranda Forests, Chutia Nagpur. JASMINUM. 606 Jasminum grandiflorum, Linn., OLEACEE. Vern. - Chambel, jati, HIND.; Myablay, BURM.

Found on the Himalaya, and often cultivated.

H 3026. Nagkanda, 8,000 feet. Has, like J. officinale, white wood.

J. humile, Linn.

607

Syn.-J. REVOLUTUM, Sims.

Vern.—Chamba, juari, tsonu, summun, jai, tsuman, kuja, Pb.; Sonajáhí, Kumaun; Sím, re, Chenab; Shing, puring, marti, Sutlej.

ihe.

57

A small shrub, wild in the sub-tropical Himalaya at 2,000 to 5,000 feet, from Kashmir to Nepal, in Bhutan, South India, and Ceylon; widely cultivated in gardens throughout India.

Wood white, moderately hard, even-grained.

H 2801, H 3027. Nagkanda, Simla, 7,000 feet.

JUGLANS 608 . Jasminum officinale, Linn. * Vern.—Chamba, chirichog, kiri, KASHMIR; Bansú, kwer, dumni, CHENAB; Dassi, samsem, RAVI; Suni, somun, SUTLEJ; Chambeli, KUMAUN. A climber of the Salt Range and the Himalaya from the Indus to Sarda. H 2879. Nagkanda, 8,000 feet. JATROPHA. 600 Jatropha Curcas, Linn., Euphorbiace E. THE PHYSIC NUT. Vern.—Bagberenda, safed ind, HINB., Beng.; Kulejera, totka bendi, Kol.; Kadam, Nepal; Kaat-amunak, Tam.; Nepalam, Tel.; Mara-narulle, maraharalu, Kan.; Kaak-avenako, Mal.; Thinbau-kyeksu, BURM. A shrub indigenous in America; cultivated in most parts of India, especially in Coromandel and Travancore. Wood white, very soft, perishable. Weight, 25 lbs. per cubic foot. Often used for hedges, and planted near villages. lbs. E 2427. Manjha, Darjeeling Terai 25 J. glandulifera, Roxb. біо Vern.—Lal-bherenday Beng.; Jangalieranda, Bom.; Addalay, Tam.; Nela-amida, Tel.; Nikumba, Sans. A small gregarious bush frequenting waste places, exceedingly plentiful in Bengal, and not more than 3 feet in height. Less plentiful in Upper India, but often attains the height of 6 feet. It is largely used for hedges. JUGLANS. Juglans regia, Linn., Juglander. бII THE WALKUT. Vern.—Charmaghs, Pers.; Ughs, waghs, Afg.; Akhor, krot, dun, Kash-mir; Kabotang, thanka, Pb.; Starga, Ladak; Ka, Kunawar; Akhor, kharot, Kumaun; Akhrot, Hind.; Akrut, Beng.; Kowal, Lepcha; Tagashing, BRUTIA. A large tree wild in the North-West Provinces and the Sikkim Himalaya, and largely cultivated, especially in Afghanistan and Kashmir. Heartwood greyish-brown with darker streaks, often beautifully mottled, moderately hard, even-grained, seasons and polishes well. Weight: European walnut weighs 40 to 48 lbs. per cubic foot; our specimens give, North-West Himalaya 41 lbs., Sikkim 33 lbs. on an average. The tree reaches a very large size. Brandis describes trees up to 28 feet in girth and 100 feet high from the North-West Himalaya; in Sikkim it often reaches 100 to 120 feet in height with a girth of 12 feet or more. It is being grown in plantations at Rangbul and other places near Darjeeling.

The wood is extensively used for furniture throughout the Himalaya, and its principal use is for gun-stocks. In Darjeeling it is occasionally

used for shingles by the Bhutias, but is not so good as chestnut. Before it became scarce in the forests it was largely used for house-fittings,

PART VII	.]. Economic Products of India.
THUIDE	<u>}.</u>
JUNIPE	•
RUS.	and many of the older houses in Darjeeling have their doors and windows and other fittings almost entirely of walnut.
	lbs.
•	H 7. Theog, Simla, 5,000 feet
•	H 3103. Dungagalli, Hazara, 7,000 feet
\$	H 9. Matiyána, Simla, 7,000 feet
14	H 29. ,, ,, ,, ,, 43
	H 15. Jubal, 4,000 feet
•	H 35. Madhan, 6,000 feet 41
	H 780. Chamba, 4,000 feet
	H 125. Ralla, Kulu, 6,000 feet
	H 428. Durani block, Deoban, Jaunsar, 6,000 feet . 43
	E 357. Tukdah Forest, Darjeeling, 5,000 feet . 28
•	E 2440. Darjeeling, 6,000 feet
	Forest Donainum Forest Donies line of one fact
	E 3587.)
٠ .	E 3587. Darjeeling, 7,000 feet
	JUNIPERUS.
612	Juniperus communis, Linn., Coniferæ.
	VernNúch, páma, pethra, bentha, betar, Kashmir, Chamba and Kulu;
	Lang shúr, thelu, lewar, Kunawar; Chúni, shúpa, Piti; Sbama, Lahoul; Chichia, Kumaun.
	A large shrub of the North-West Himalaya ascending to 14,000
	feet, extending eastward to Kumaun, Mountains of Western Asia and
	Europe.
	Wood white, moderately hard, fragrant, highly resinous, with a small
	mass of darker wood near the centre. Weight, according to Mathieu,
•	Fl. For., p. 448, 34 lbs.; our specimen gives 33 lbs. per cubic foot.
L	In the Himalaya it rarely attains more than 6 to 7 feet in height,
* •	often with a disproportionately thick stem, 18 to 24 inches in girth.
·	The wood is used for fuel.
1	lbs.
(H 137. Lahoul, about 10,000 feet
1	H 967. Upper Chenab ,,
613	J. excelsa, M. Bieb.
	1
-	HIMALAYAN PENCIL CEDAR.
.f	Vern.—Apúrs, Beluchistan; Chalai, Jhelam; Shúkpa, shúr, shúrgu,
7	lewar, CHENAB and SUTLEJ; Luir, RAVI; Shurbuta, shurgu, shukpa,
1	Tibet; Dhup, padám, padmak, súrgi, N., W. P.; Phúpi, dhúpri, chandan, shúkpa, NEPAL.
1	A moderate sized tree of the arid tract of the North-West Hima-
1	laya and Western Tibet, extending eastward to Nepal, mountains of
į	Afghanistan and North Beluchistan.
1	Sanwood white heartwood red very fragrant often with a pur-
1	Sapwood white, heartwood red, very fragrant, often with a purplish tinge. Weight, Brandis gives 25 to 37 lbs.
i	The wood is used in Quetta and Khelat for house-building, also
1	mixed with stone for the walls of houses in Lahoul. Some of the
į.	temples in Kunawar are built of it, and it is there made into drinking-
l	cups and walking-sticks. At Leh it is largely used as fuel, and is
I	sometimes made into charcoal.
A Company of the Comp	sometimes made into charcoal.
Ĭ.	H 163. Hazara, 7,000 feet
ā	H 772. Barmur, Ravi, 7,000 feet 34
.	H 906. Upper Chenab Valley, 8,000 feet
ł	H 139. Lahoul, about 8,000 feet 34
	H 608- ,, ,, ,
	· · · · · · · · · · · · · · · · · · ·

	KAYEA
umin amus us suu sa 71	•
uniperus recurva, Ham.	614
THE WEEPING BLUE JUNIPER. Vefn.—Wetyar, bettar, chúch, thelu, phulu, PB.; Bettir, bhedára, bidelgani, thelu, phulu, jhora, gúggal, bil, úrú, agáni, NW. P.; Tupi, NEPAL; Páma, TIBET; Deschú, chakbu, SIKKIM. A moderate sized tree native of Sikkim and Bhutan, 9,000 to 12,000 feet. Sapwood white, heartwood light red, very fragrant. Structure similar	
wanting. Weight 38 to 42 lbs. per cubic foot. The wood is used for fuel at high elevations, and the twigs and leaves are largely exported from Sikkim to be used, as incense to burn in temples.	3
E 374. Sandukpho, Darjeeling, 12,000 feet 38 E 2438. " , ,	7
H 144, Lahoul, is what is generally called J. recurva in the North-West Himalaya; a low procumbent shrub, covering large slopes in the inner arid Himalaya. Heartwood small, reddish, structure similar to that of the Blue Juniper of Sikkim. Weight 47 lbs. per cubic foot.	
THE BLACK JUNIPER. Vern.—Tchospo, Sikkim. In the North-West a large shrub, in Sikkim a tree 9,000 to 15,000 feet from the Indus to Sikkim. Wood resembling that of J. excelsa. H 129. Rotang Pass, Lahoul, 12,000 feet.	615
KANDELIA.	
Vern.—Guria, Beng.; Tsjeron-kandel, Malay. An evergreen shrub, or small tree, found on the muddy shores in the tidal creeks of Bengal, Burma, and the Western Coast. Wood soft, close-grained. Weight 38 lbs. per cubic foot. Wood used only for firewood.	616
E 407. Sundarbans	
KAYEA.	•
Kayea floribunda, Wall. GUTTIFERE. Vern.—Karram-jowa, Sylhet. A large tree of the tropical forests of the Eastern Himalaya extending to Martaban and ascending to 3,000 feet. (Specimens wanted.)	617
L. stylosa, Thwaites (Enum. 50.) Vern.— Súvanda, CINGH.	618
A large tree of Ceylon south of the island, Wood soft, reddish; weight 56 lbs. No. 82, Ceylon Collection (Specimens wanted.)	

LAGERS-
TREMIA.

KORTHALSIA.

619

Korthalsia laciniosa, Mart., PALME.

Syn.—Calamosagus laciniosus, Griff.

Found in Tenasserim.

(Specimens wanted.)

620

K. scaphigera, Mart.

Syn.—Calamosagus scaphiger, Griff.

Vern.—Bordah, paridah, AND.

B 1041. Andaman Islands.

(Specimens wanted.)

KYDIA.

62т

Kydia calycina, Roxb., Malvaceæ.

Syn.-K. CALYCINA and FRATERNA, Roxb. (Fl. Ind, iii., 188, 189.)

Vern.—Pola, púla, puli patha, potari, HIND.; Varanga, várangada, Bom.; Baranga, bhoti, C. P.; Bittia gonyer, Kol; Derki, Kharwar; Kubindé, NEPAL; Sedangtaglar, LEPCHA; Mahow, moshungon, MECHI; Boldobak, GARO; Kopásia, URIYA; Potri, pandiki, peddapotri, pedda kunji, Tel.; Buruk, bosha, kunji, Gond; Bendi, bende-naru, Kan.; Warung, Mar.; Dwabote, Burm.

A small tree, common ir the forests of all parts of India and Burma except the arid region. Growth fast, four to eight rings per inch of radius.

Wood white, soft; no heart. Weight 40 lbs. on an average.

The wood is used for house-building, ploughs, and oars, and for carv-

_			_		_				TDB.
C 1177.	Ahiri	Reserve	, Cer	itral I	Provinc	COS	•	•	37
C 1163.	,,	,,	9:	,	23	•			33
O 3154.	Sahar	anpur				•		•	45

LAGERSTRŒMIA.

622

Lagerstræmia Flos-Reginæ, Retz., Lythraceæ.

Syn. - L. REGINÆ, Roxb.

Vern.—Garúl, Beng.; Gara saikre, Kol.; Ajhar, Ass.; Bolashari, Garo; Kadali, Tam.; Challá, Kan.; Adamboe, Mal.; Taman, mota bondara, Mar.; Kamaung, Magh; Pymma, Burm.; Murute, Cingh.

A large deciduous tree, found in East Bengal, Assam, Burma, and on

the West Coast, extending north to Ratnagiri.

Wood shining, light red, hard. Weight about 40lbs. per cubic foot. The wood in Burma is frequently very porous with an abundance of large

pores.

The most valuable timber of Sylhet, Cachar and Chittagong, and in Burma the most valuable after teak. It is used in ship-building and for boats and canoes, all kinds of construction, timber and carts. The Ordnance Department use it for many parts of their gun-carriages. In South India it is used for building, and in Ceylon for casks. It is culti-

vated for ornament all over the hotter parts of India, and even as fa	LA
north as Lahore.	` .
E • 630. Eastern Dúars, Assam	
E 1433. Assam	
E 710. Chittagong	
B 3067. Burma (1862)	
The following numbers are by Gamble referred to L. Macrocarpa, Wall a form which the Flora of British India reduces to L. Flos-Regime Rets.	
B 296. Burma (1867) 48 B 306-8. ,, (1862) 45	
Lagerstæmia hypoleuca, Kurz. Vern. – Pymmah, Burm.; Pábdá, And.	623
A large deciduous tree of the Andaman Islands. Wood red, hard. Weight 35 to 45 lbs. per cubic foot. The wood is used largely in the Andamans for building, shingles, and other purposes.	
D gro Andomon Islando	
B 510. Andaman Islands	
B 2496. ,, ,, (Home, 1874, No. 2) . 44	
L. lanceolata, Beddomę. Syn.—L. PARVIFLORA; Roxb., var. MAJUSCULA, C. B. Clarke (Hook, Fl. Ind., i, 575.)	624
Vern.—Bandara, nandi, KAN.; Nána, sokutia, MAR.; Boda, bondaga,	
A large tree met with in the forests of the Western Ghâts as far north as Khandeish, Mysore and Courtallum. Inner wood red moderately hard.	
Weight 57 lbs. per cubic foot.	
C 956. Guzerat, Bombay	
L. microcarpa, Wight. Syn.—L. LANCEOLATA,; Wall. (Hook, Fl. Ind., ii, 576.; Brandis, 240.) Vern.— Benteak, venteak, TAM.; Ventaku, TEL.; Bolundúr, billi nandi,	625
KAN.; Nandi, Coord; Nanah, MAR. A large tree of the western forests of the Madras Presidency. Wood red, moderately hard. Weight about 42 lbs. Much used in construction and for ship-building, also for coffee-cases and for furniture.	
	٠.

LARIX.

· 626

Lagerstræmia parviflora, Hook. (Fl. Ind., ii, 575; Roxb., Fl. Ind. ii, 505.)

Vern.—Bákli, kat dhaura, dhaura, lendya, seina, sida, asid, HIND.; Sida, BENG; MECHI, ASS.; Borderi, bordengri, NEPAL; Kanhil, LEPCHA.; Shida, GARO; Shef, BANDA; Seji, BIJERAGOGARH; Kakria, GUZ.; Sahine, CHANDA; Chinangi, TEL.; Chungi, pilágu, Hyderabad; Nana, bondarq, nandi, bellinandi, sina, lendi, MAR.; Ventaku, cheninge, KAN; Leidya, BAIQAS; Sina, nelli, leria, GOND; Chekerey, Kurku; Tsambelay, Burm.

A large deciduous tree of the sub-Himalayan tract from the Jumna eastwards, of Qudh, Bengal, Assam, Central and South India.

Wood very hard, grey or greyish-brown, often with a reddish tinge,

darker coloured near the centre, hard.

Wood tough, elastic, seasons well, works freely, and is fairly durable. It coppices well. Ten sleepers laid down on the Oudh and Rohilkhand Railway in 1870 were reported, on being examined in 1875, to be sound. A number of sleepers are being tried on the Northern Bengal State Railway, but the result is not yet known. It is used for ploughs and other agricultural implements, for construction, for buggy shafts and axe handles. It gives a very good charcoal.

- · · · · · · · · · · · · · · · · · · ·			lbs.
O 232. Garhwal (1868)			45
O 2999. ,, (1874) 1		•	51
O 339. Gorakhpur (1868)	•	•	54
C 196. Mandla, Central Provinces (1870)	•	•	49
C 2735. Moharli Reserve, Central Provinces	•	•	50
C 1140. Ahiri Reserve, Central Provinces	•	•	6 0
C 2768. Melghát, Berar	•	•	54
E 666. Bamunpokri, Darjeeling Terai .	•	•	52
E 2379. Sukna Forest " " .			54
E 785. Kámrúp, Assam		•	•••

627

L. tomentosa, Presl.

Vern. - Laisa, BURM.

A large deciduous tree found in Burma; frequent in Pegu and Martaban.

The timber is valued for bows and spear handles, and is also used for canoes and cart-wheels.

B 572.	Prome .			•	<u> </u>	lbs. 46
B 2533.	Burma (1862)	•	•			53

LARIX.

628

Larix Griffithii, Hook. f. and Th., CONIFERE.

Vern.—Sah, saar, Sikkim.

A deciduous tree found in Nepal, Sikkim, and Bhutan, between 8,000 and 12,000 feet.

Heartwood red; inner zone of each annual ring soft and spongy, outer zone narrower, firm, and shining. Resinous ducts scanty, large. Weight 32 lbs. per cubic foot.

The wood is considered durable, and is exported from Sikkim into Tibet. Hooker in Himalayan Journals, ii, p. 14, says that he never saw the wood to be red but always white and soft. Our specimen, however, is red, and closely resembles the wood of the European Larch.

11bs.

E 969. Chumbi Valley, Tibet, about 10,000 feet

LEEA LAWSONIA. Lawsonia alba, Lam., Lythraceæ. THE HENNA PLANT. Vern .- Henna, mehndi, HIND.; Dan, BURM.; Manghata, URIYA; Marithondi, TAM.; Gorantlu, KAN. A shrub found wild in Beluchistan, on the Coromandol Coast, and perhaps in Central India; cultivated throughout India, chiefly for its dye, but also as a hedge plant. Wood grey, hard, close-grained. C 2000. Nimar, Central Provinces. LEBEDIEROPSIS. 630 Lebedieropsis orbicularis, Müll. Arg., Euphorbiace ... Syn.—CLUYTIA COLLINA, Roxb. (Fl. Ind., iii, 732.) Vern.—Garrar, garári, HIND.; Parasu, pás, Kol.; Kergaili, Kharwar; Karada, URIYA; Korsi, wodesha, kadishen, korshe, Tel.; Wodayú, waddan, TAM.; Garari, MAR.; Modara, CINGH. A small deciduous tree met with in Bandelkhand, Satpura Range, and forests southwards to the Godavari mountains of South India. Wood red, tough, moderately hard to hard, close and even-grained, warps in seasoning. Heartwood dark red, small; sapwood lightercoloured. Weight 54 to 55 lbs. per cubic foot.

Beddome says the wood is much used in India. It coppices readily and in great abundance; it may, therefore, be specially recommended where fuel has to be produced in tropical part of India, but it is also recommended as a useful wood for turning. The outer crust of the capsule is said to be poisonous, and is so used in Singbhum by the Ho-Kols, as also the root mixed with salt. Ahiri Reserve, Central Provinces 1175. C 1252. Gumsú:, Madras 55 1306. Betlah Reserve, Palamow, Chutia Nagpur C 3452. LEEA. Leea gigantea, Griff., Ampelider. 63/ Vern.—Ashrah, MECHI. A small tree met with in forests of the Himalaya, Eastern Bengal, Burma, and West Coast. Wood moderately hard. E 3278. Muraghát, West Dúars. L. robusta, Roxb. 632 Vern.-Galem, NEPAL; Pantom, LEPCHA. A shrub, habitat the same as the preceding. The dry stems are sometimes used as torches. Wood moderately hard; the stems are used for fencing, for stakes, and for temporary huts. 879.} Darjeeling Terai. E 2860.

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-	3 IA	RI	٠.	
- 4	100.00	КΙ		

Leea Sambriana, Willd.

A shrub with fluted stems, common throughout the hotter parts of India.

E 880. Darjeeling Terai.

LEPTOBŒA.

634

Leptobæa multiflora, Bih., Gesneraceæ.

Syn.—CHAMPIONIA MULTIFLORA, C. B. Clarke.

Vern .- Tungrangmook, LEPCHA.

A small shrub, found on the hills of North-East Himalaya up to 3,000 feet.

Wood yellowish-white, hard, close and even-grained.

E 3314. Pankabari, Darjeeling, 2,000 feet.

LEPTODERMIS.

635

Leptodermis lanceolata, Wall., Rubiace E.

Vern. - Jogia padera, Kumaun.

A small shrub of the North-Western Himalaya, generally on locks between 5,000 and 10,000 feet.

Wood hard, white.

H 2822. Simla, 6,000 feet

lbs. 48

LEUCŒNA.

636

Leucœna glauca, Bth., Leguminosæ.

Vern.~

A small tree found in the outer valleys of 'Kumaun and Garhwal. Wood white, hard.

O 3657. Kumaun.

(Specimens wanted.)

LEUCOMERIS.

637

Leucomeris spectabilis, Don., Compositæ.

Vern.—Panua, Kumaun ; Bhæa, phusrae, Nepal.

A small tree of Nepal, also found in Garhwal.

(Specimens wanted.)

LEYCESTERIA.

638

Leycesteria formosa, Wall., CAPRIFOLIACEÆ.

Vefn.—Malkarr, saunjla, nalkaru, karnaliya, KUMAUN; Tunguk,

An erect shrub with hollow, generally herbaceous, stems, found throughout the Himalaya from the Sutlej to Bhutan, from 5,000 to 10,000 feet.

Timbers.	PART VIL
	LINDERA.
Wood resembling in structure that of Lonicera, but with slightly broader medullary rays.	
H. 2849. Mahasu, Simla, 8,000 feet.	•
LICUALA.	
Licuala peltata, Roxb., PALME. Vern. – Patti, chattah-pak, Ass.; Kurud, kurkuti, Beng.; Sa-lu, Burm.; Kapadah, And.	639 ·
A peltate-leaved palm of the forests of Assam, Eastern Bengal, Chittagong, Burma, and the Andamans; said to extend westward as far as Sikkim.	,
The stems are about 9 to 12 inches in girth and 5 to 15 feet high. The wood is rather soft, the vascular bundles are evenly distributed and dark coloured.	,
E 3366. Kasalong Reserve, Chittagong.	
LIGUSTRUM.	
Ligustrum compactum, Hook f. and Th.	640
A large shrub of the North-West Himalaya from the Beas to the Sarda, at 3,500 to 6,000 feet. Wood white, moderately hard. Weight 64 lbs. per cubic foot. Ligustrum vulgare is the Privet, common in hedges in Europe.	
H 3059. Koti, Simla, 6,000 feet 64	
LIMONIA.	,
Limonia acidissima, Linn., RUTACEE. Syn.—L. CRENULATA, Roxb. Vern.—Beli, HIND.; Belsian, CHUTIA NAGPUR; Torelaga, Tel.; Kawat, Mar.; Thee baya-sa, BURM.; Bheuta, URIYA; Naibela, Kan. A spinous shrub or small tree of dry hills in various parts of India. Wood very hard, close-grained, yellowish-white. Weight 39 lbs. per cubic foot. Might be useful for turning.	641
C 3530 Khurdha Forests, Orissa 59	
C 3570 S C 3645 Daltonganj, Palamow, Chutia Nagpui.	
LINDERA.	
Lindera heterophylla, Meissn., Lauraceæ.	642
Vern.—Siltimber, NEPAL. A small evergreen tree of the higher Darjeeling hills, above 9,000 feet. Wood grey, moderately hard. Weight 42 lbs per cubic foot.	
E 384. Tonglo, Darjeeling, 10,000 feet 42 E 3638 from Darjeeling, 11,000 feet, is either this or a neighbouring species.	
155	•

LINOCIERA. nociera macrophylla, Wall (Cat. 2826.) OLEACEE. Syn.—Chionanthus macrophylla, Kurs. A small g'abrous tree found in Eastern India. Wood pinkish-white. No. 3211. Saharanpur Gardens, cultivated. purpurea, Vahl. Var.—Linociera dichotoma, Wall, in DC. Syn.—Chionanthus dichotoma, Roxb. (Fl. Ind.) Vern.—Deorkuda, Kol. A small tree. Wood moderately hard, close-grained, white. C 3486. Kolhan Forests, Singbhum, Chutia Nagpur, is probably this species. I.ITSÆA. Itsæa consimilis, Nees, Lauraceæ. Syn.—L. zeylanica, Nees (Brandis, 382, part.) Vern.—Chirira, chir chira, Kumaun; Poofeli, Nepal. A small evergreen tree of the Himalaya from Simla eastwards. Wood yellow, moderately hard, close-grained. Weight 43 lbs. per cubic foot.
Nociera macrophylla, Wall (Cat. 2826.) OLEACEE. Syn.—Chionanthus Macrophylla, Kurz. A small g'abrous tree found in Eastern India. Wood pinkish-white. No. 3211. Saharanpur Gardens, cultivated. purpurea, Vahl. Var.—Linociera dichotoma, Wall, in DC. Syn.—Chionanthus dichotoma, Roxb. (Fl. Ind.) Vern.—Deorkuda, Kol. A small tree. Wood moderately hard, close-grained, white. C 3486. Kolhan Forests, Singbhum, Chutia Nagpur, is probably this species. I.ITSÆA. Itsæa consimilis, Nees, Lauraceæ. Syn.—L. Zeylanica, Nees (Brandis, 382, part.) Vern.—Chirira, chir chira, Kumaun; Pooteli, Nepal. A small evergreen tree of the Himalaya from Simla eastwards. Wood yellow, moderately hard, close-grained. Weight 43 lbs. per cubic foot.
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tsæa consimilis, Nees, LAURACEÆ. Syn.—L. ZEYLANICA, Nees (Brandis, 382, part.) Vern.—Chirira, chir chira, Kumaun; Pooteli, Nepal. A small evergreen tree of the Himalaya from Simla eastwards. Wood yellow, moderately hard, close-grained. Weight 43 lbs. per cubic foot.
Syn.—L. ZEYLANICA, Nees (Brandis, 382, part.) Vern.—Chirira, chir chira, Kumaun; Pooteli, Nepal. A small evergreen tree of the Himalaya from Simla eastwards. Wood yellow, moderately hard, close-grained. Weight 43 lbs. percubic foot.
A good wood.
E 2420. Hoom Linding, Darjeeling, 5,000 feet 43
lanuginosa, Nees. Vern.—Kalban, PB.; Kokra, HIND. A moderate sized tree of the outer Himalaya, from the Indus eastwards to 6,000 feet. Wood yellow when fresh cut. H 2948. Sutlej Valley 3,000 feet.
zeylanica, Nees. Syn.—L. Foliosa, Nees; L. Umbrosa, Nees; L. Scrobiculata, Nees in PC. Prodr. xv. Vern.—Chimdi, shalanglu, rauli, chilotu, charkha, kaderu, marki, thirmal, sopru, PB.; Kanwal, titbora, sara, jhatela, chirora, chirchira, Hind.; Belori, Bukighers; Dawal kúrúndú, Cingh. A moderate sized evergreen tree of the North-West Himalaya, between 1,000 and 8,000 feet, of Eastern Bengal, Burma, and South India. Wood reddish-white, with darker heartwood, moderately hard. Weight 36 to 38 lbs. per cubic foot. It is used for house-building in South India. Ibs. H 63. Nagkanda, Simla, 8,000 feet

- L	
•	LONICER
Livistona.	
Livistona Jenkinsiana, Griff., PALME. Vern.—Talainyom, tulac-myom, purbong, LEPCHA; Toko pat, Ass. An extremely handsome, fan-leaved palm, found in the Sivoke Hills in Sikkim and eastward to Assam, where it is commonest in Nowgong and the Naga Hills. It attains 30 feet in height. Wood very soft with white fibro-vascular bundles, E 2461. Sivoke Hills, Darjeeling.	648
LONICERA: °	,
Lonicera alpigena, Linn., Caprifoliacez, (The Honeysuckle is L. periclymenum, Linn.) A shrub of the North-West Himalaya from Kashmir to Kumaon, 8,000 to 10,000 feet. Wood moderately hard.	649
H 2912. Nagkanda, Simla, 8,000 feet. H 3016. Hattu, Simla, 10,000 feet.	
L. angustifolia, Wall. Vern.—Geang, JAUNSAR; Pilru, philhu, SUTLEJ. A small shrub of the Himalaya from the Indus to Sikkim, 6,000 to 10,000 feet. Wood white, very close-grained. Weight 60 lbs. per cubic foot.	650
H 2843. Mahasu, Simla, 8,500 feet 60 H 2875. Nagkanda, Simla, 8,000 feet	1
L. orientalis, Lamarck. A shrub found in the North-West Himalaya, from Kashmir to Kumaun, 8,000 to 10,000 feet. Wood white, with a darker centre; moderately hard. H 2909. Nagkanda, Simla, 8,000 feet. H 3017. Hatt'a, Simla, 10,000 feet.	651
L. quinquelocularis, Hardwicke. Vern.—Garlangei, adei, Trans-Indus; Phút, Jhelum; Tita bateri, pákhur, Kashmir; Bakhru, Chenab; Khúm, sái, Pavi; Dendra, Beas; Kliunti, kraunti, takla, sbang, rasbam, bhajra, bhijaul, bijgai, Sutlej; Bet kukri, bhat kukra, cheraya, kurmali, Kumaun. A large deciduous shrub found on the Suliman Range, North-West Himalaya, between 2,500 and 9,000 feet. Wood white, with a brown centre, very hard, and close-grained. Weight 52 lbs. per cubic foot. Used only for firewood.	
H 81. Mashobra, Simla, 7,000 feet	

LORAN- THUS.	•
·	,
_	LOPHOPETALUM.
6 53	Lophopetalum littorale, Kurz, Celastrinez. Syn.—Kokoona Littoralis, Lawson (Hook, Fl. Ind., i, 617.) Vern,—Moondein, Burm. A tree of Pegu and Tenasserim. Wood grey, moderately hard, even-grained. Weight, on an average, 35 lbs. per cubic foot.
· ·	B 278. Burma (1867)
, 65 4	L. Wallichii, Kurz. Vern — Mongtaing, moondein, Burm. A large glabrous tree of Burma and the Andaman Islands, common in the open and more especially in the Eng forests. The wood is pale, turning pale-brown, finely and rather loose grained. hard, rather light. Heartwood brown. It is recommended for furniture, Major Ford says it is used by the Andamanese for writing boards.
	B 1947. Tavoy (Kanazo-ta-loo, Burma) 31 B 2248. (1866) Andamans (Toung-hmayo)
655	L. Wightianum, Arn. Vern.—Bolpale, Kan. A large evergreen tree of the Western coast from the Konkan to Cape Comorin. Wood reddish-grey, moderately hard, close-grained. Weight 28 to 29 lbs. per cubic foot. The wood is much esteemed in South Kanara, where it is used for house-building. lbs.
	W 723. South Kanara
	LORANTHUS.
6 56	Loranthus longiflorus, Desr., Loranthace E. Syn.—L. Bicolor, Roxb. (Fl. Ind., i, 548.) Vern.—Pand, amút, PB,; Bánda, C. P.; Patha, Banda.; Bara manda, Beng.; Vánua, Sans; Proosti, Lepcha; Ajeru, Nepal; Yelinga, wadinika, Tel., Kaurak, Bhil.; Khyee poung, Burm. A parasitic shrub, met with in the outer Himalaya from the Jhelam eastwards, ascending to 7,500 feet, in Bengal, Central and South India, Burma, Andaman Islands, and Ceylon. H 3061. Koti, Simla, 6,000 feet (on Q. dilatata).
657	L. vestitus, Wall. Vefn.—Pand, Hind. A parasitic shrub of the North-West Himalaya from the Ravi to Sikkim up to 7,000 feet, and of the Khásia Hills. It grows often to a large size, and is extremely common in some parts of the Himalaya.

Timbers.	[PART VII.
•	MACARAN-
Wood reddish-white, compact, close-grained, moderately hard Weight 51 lbs per cubic foot.	l. GA.
H, 3033 Theog, Simla, 7,000 feet (on Q dilatata) H 2038 Below Naldehra, Simla, 5,000 feet (on Q. incana)	
LUCULIA.	
Luculia gratissima, Sweet, Rubiachæ	658
Vern — Dowars, Nepal., Simbran-grip, Lepcha. An epiphytic shrub of the temperate Him daya, from Nepal to Bhutan, altitude 4,000 to 6,000 feet, also in Awa. (Kurz.) Weight of wood 23 lbs per cubic foot	
(Specimens wanted)	•
MABA.	
Maba andamanica, Kurz, Eblnache,	659
A shrub, 3 to 5 feet, of the Andamans, frequent in the moister upper mixed forests, and of the Nicobar islands Wood bluish-grey Weight 49 lbs per cubic foot.	
B 2472 (<i>Kurs</i> , 1866) Andamans 49	
M. buxifolia, Pers. Vern — Gua koli, Uriya, Me-proung, Burm A small energien tree, common in South Decean, Peninsula and Ceylon, from Pegu to Malacca frequent, and found in Orissa C 3502 Khurdha forests, Orissa.	660
MACARANGA.	
Macaranga denticulata, Mull Arg, ELPHORBIACFÆ Vern.—Mallata, Nepal, Numro, Lipcha, Ioung-lpck-wan, Burm. A small tree, often gregarious, found in the Sikkim Hills, from 3,000 to 6,000 feet, chiefly on old clearings, and in Burma Wood soft, greyish-red Weight 29 lbs per cubic foot It is much used for fencing and temporary huts	661
E 2425 Tukdah Forest, Darjeeling, 5,000 feet . 29	
M. gummiflua, Mull. Arg. Vern.—Jogi mallata, Nepal., Chakro, Garo, Burua, Chittagong, Pawaing, Magh A small tree, fo ind in Sikkim, from 3,000 to 6,000 feet, and in Eastern Bengal. often gregarious. Bark grey, smooth. Wood greyish-red, soft Weight 22 lbs per cubic foot. It is used for similar purposes to that of M. denticulata.	662
E 2426 Pugraingbong, Darjeeling, 5,0 to feet . 22	

Economic Products of India.

/CI	

663

Macaranga indica, Wight.

Vern. - Degdakti, laikesau, MECHI; Lal mallata, NEPAL; Boura, BENG.; Modala, Ass.

A small evergreen tree found in Sikkim up to 3,000 feet, the Khásia Hills, Western Ghâts, and Andaman Islands.

Wood greyish-red, moderately hard. Weight 33 lbs. per cubic foot.

				ips.
E 2424.	Chumbati, Darjeeling, 2,000 feet	•	•	33
B 2475.	Andaman Islands (Kurs, 1874)	•	•	•••

664

M. tomentosa, Wight.

Vern.—Vatte-kannı Tam.; Upligi, upalkai, kanchupranthi, Kan.; Chenthakanni, Mysore; Chanda, Bom.; Kanda, Cingh.

A small tree of the Western Ghâts, usually found on clearings; grows yery quickly.

Wood soft, perishable, and useless.

(Specimens wanted.)

MACHILUS.

665

Machilus odoratissima, Nees., Laurace E.

Vern.—Dalehmi, mith-patta, prora, badror, leddil, PB.; Kawala, HIND.; Kawala, lali, jagrikat, NEPAL.; Phamlet, LEPCHA; Soom, Ass.; Dingpingwait, KHASIA.

A large tree of the outer Himalaya ascending to 8 000 feet, of the Khásia Hills and Burma. In Assam it grows gregariusy, in large forests, which are used for feeding the silkworms (Antheræa Assama) which give the Muga or Moonga silk.

Wood grey, darkening, and turning red on exposure, soft to moderately

lbs.

hard, even-grained. Weight 40 lbs. per cubic foot.

Used in Darjeeling, where it is very common, for building, chiefly for native houses. Also for tea-boxes.

Н	92.	The Glen, Simla, 6,000 feet	•	37
Н		Hazara, Punjab	•	ຼຸ 39
E	435.	Rangbúl Forest, Darjeeling, 7,000 feet	•	* 43
	2414.	yy yy yy yy	•	36
E	592.	Khooklong Forest, Darjeeling Terai	•	43
		Lakhimpur, Assam	•	43
E	3634.	Darjeeling, 7,000 feet.		

MACLURA.

666

Maclura tinctoria, D. Don., Urticace E.

THE FUSTIC.

A native of the West Indies, and Central and South America; introduced into India.

Wood orange-yellow, hard. Weight 53 lbs. per cubic foot.

Wood used for dyeing.

No. 2065.

•	
•	MAGNOL
MACROPANAX.	
Macropanax undulatum, Seem., Araliacez. Vern.—Chinia, Nepal; Prongsam, Lepcha. A moderate sized evergreen tree of the Eastern Himalaya, up to 5,000 feet. Wood soft, yellowish-white, even-grained. Weight 30 lbs. per cubic foot. lbs. E 688. Chuttockpur Forest, Darjeeling, 6,000 feet 30	667
E 688. Chuttockpur Forest, Darjeeling, 6,000 feet 30	
MÆSA. ∙ °	•
Mæsa macrophylla, Wall., Myrsineæ. Vern.—Phusera, Kumaun; Bogoti, Nepal; Tugom, Lepcha. A large shrub or small tree met with in the Eastern Himalaya from Nepal to Bhutan, especially in second-growth forests. Wood light brown, moderately hard; the sapwood is resinous. A sticky resin exudes from the bark when cut. E 3670. Kalimpung, Darjeeling, 4,000 feet.	668
M. montana, A. DC. Vern.—Bilauni, Nepab; Purmo, Lepcha.	669
An evergreen, gregarious shrub or small tree met with in the North-East Himalaya from Nepal eastwards, Eastern Bengal, and Burma (var. B. elongata = M. paniculata, A. DG.; Kurs, ii, 99), often forming coppice-like, dense, second-growth forests at elevations from 3,000 to 6,000 feet on the Sikkim and Bhutan Hills. Used only for fuel and rough house-posts. Wood soft. E 2389. Tukdah Forest, Darjeeling, 6,000 feet.	•
M. rugosa, Clarke. A small tree or stout shrub, with pretty white flowers found in Sikkim between 5,000 and 7,000 feet, is frequent in the upper valleys of the	670
Teesta and Rutong. Wood light brown, soft. The sapwood is slightly resinous, annual rings marked by a dark line. E 3669. Mirig, Laba, British Bhutan, 6,000 feet.	
1 300g. Mang, 2000, British Silatan, 1,000 tooli	
, MAGNOLIA.	
Magnolia Campbellii, Hook. f. and Th., MASSROLIACEE., RED MAGNOLIA. Vern.—Lal champ, NEPAL; Sigumgrip, LEPCHA; Pendder, BHUTIA. A large, tall, deciduous tree of Sikkim and Bhutan from 7,000 to 10,000 feet.	671
Wood white, very soft. Weight 25 lbs. per cubic foot. It is occasionally used for planking, but now scarce. Chiefly remarkable for its magnificent large pink or white flowers, which appear in April.	
E 365. Rangyrum Forest, Darjeeling, 7,500 feet 25	
L 161 .	. •

-	4		AMTIC
	А	ŁŁ	ATUS.

	MALLOIUS.
672	Mallotus albus, Müll. Arg., Euphorbiace
- ,_	Syn M. TETRACOCCUS, Kurs (ii., 382); ROTTLERAALBA and TETRACOCCA, Roxp. (Fl. Ind., iii, 829, 826.)
	Vern: - Marleya, Sylhet; Jogi mallata, Nepal; Numbong, Lepcha.
	A small evergreen tree found in Sikkim, Eastern Bengal, Chitta-
	gong, Western Ghâts, Mysore, and Ceylon. Wood soft, white, Weight 31 lbs. per cubic foot.
	lbs.
	E 2422. Sivoke, Darjeeling Terai 31
673	M. muricatus, Müll. Arg.
	Vern Ouk-mouk, BURM.
r	A large evergreen shrub of the Western Châts and Andaman Islands.
	Wood grey, moderately hard. Weight 57 lbs. per cubic foot.
	B 2476. Andaman Islands (Kurs, 1874) 57
674	M. oreophilus, Müll. Arg.
	Vern Numboongkor, Lercha; Safed mallata, Nepal.
	A small tree, common about Darjeeling, chiefly in second-growth
	forest; met with, in Sikkim 5,000 to 7,000 feet, and in the Khásia Hills. Wood white, soft,
	E 3397. The Park, Darjeeling, 6,500 feet.
_	
675	M. philippinensis, Müll.
,	Syn.—Rottlera tinctoria, Roxb.
	VernKamela, kamal, kambal, kúmila, Pr.; Rúen, riúna, roli, Kumaun; Rohni, Oudh; Reoni, Banda; Rauni, rori, C. P.; Roroi, Lohar-
	DUGGA; Púnag, túng, kishur, kamalaguri (the dye powder) BENG.;
	Sinduria, Nepal; Puroa, tukla, Lepcha; Baraiburi, sindurpong, Mechi; Chinderpang, machugan, Garo; Gangui, puddum, Ass.; Kumala,
	sundragundi, URIYA; Kapli, kapila, TAM.; Kumkuma, vassuntagunda,
	chendra, sinduri, Tel.; Koku, Gond; Kurku, corunga-manje, sarua- kasari, hulichellu, Kan.; Shendri, Mar.; Ponnagam, Mal.; Hampa- randella, Cingh.; Tau-theedin, Burm.
	A small tree, met with in the Sub-Himalayan tract from the Indus
	eastwards, ascending to 4,500 feet, in Bengal, Central and South India, Burma, and the Andaman Islands.
	Wood smooth, grey to light red, hard, close grained, no heartwood;
	it warps and shrinks.
	Used only for fuel.

C 1178. E 599. E 2421. M. Roxburghianus, Müll. Arg.

109.

Syn.-ROTEERA PELTATA, Roxb. (Fl. Ind., iii, 828.)

Sutlej Valley, 3,000 feet . . . Ahiri Reserve, Central Provinces Bamunpokri, Darjeeling Terai

Vern.—Kamli mallata, phusri mallata, Nepal; Ním pooteli, Beng.; Sirgúllum, Sylhet.

50

43 51

A small evergreen tree, found in Sikkim, Assam, Khásia Hills, Eastern Bengal and Burma.

•	MARL
Wood white, moderately hard, close-grained. Weight 46 lbs. per	
cubic foot.	Ì
E 2423. Chenga Forest, Darjeeling Terai . • 46	_
•	•
MANGIFERA.	
Mangifera caloneura, Kurz., Anacardiace E.	677
Vern.—Tauthayet, Burm.	- , ,
A moderate sized evergreen tree found in Martaban, and possibly Tavoy.	
Wood light-brown, moderately hard. Weight 35 lbs. per cubic foot.	
• lbs.	
B 294. Burma (1867)	
	•
M. indica, Linn. THE MANGO TREE.	678
Vern -Am HIND and Ilpiva . Chari Am Ass . Yerachu, hocha GARO.	
Marka, Gond; Ambe, Kurku; Amba, Mar.; Mah, mangas, Tam.; Mamadi, mamid, Tel.; Uli, Kol.; Ama, Baigas; Tsarat-pang, Magh;	
Mavena, mávu, KAN.; Mava, M.R.; Thayet, Burm.	
A densely-branched, large tree, wild on the Western Gháts, the Chutia Nagpur Hills and the Naga Hills; cultivated all over India for its fruit,	
the Mango.	
Wood grey, coarse-grained, soft. Weight about 41 lbs. per cubic foot.	
The wood is used for planking, door and window frames, in Calcutta for packing cases, and in Behar for indigo boxes; canoes and	
Masúla boats are made of it. The tree is, however, chiefly grown for the	
sake of its fruit.	
E 637. Goalpara, Assam 48	
B 2302. Assam	•
E 1957. Chittagong 39	
D 2053. Mysore 39	
M. sylvatica, Roxb. (Fl. Ind., ii, 164.)	679
Vern.—Bun am, Ass.; Lakshmi am, Sylhet; Chuchi am, Nepal; Katúr, Lepcha; Bagnal, Mechi; Hseng neng thayet, Burm.	
A large evergrees tree, met with in Nepal, Eastern Bengal and the	
Andamans; rare in Burma. Wood grey, moderately hard. Weight 34 to 41 lbs.	
This wood, used unseasoned for packing tea, has been found to corrode	
the lead foil, thereby spoiling the tea.	
E 594. Hookloong Forest, Darjeeling Terai . 41	
E 952. Golaghát, Assam 34	
MADIEA	
MARLEA.	
Marlea begoniæfolia, Roxb. (Fl. Ind., ii, 261.) CORNACEE.	680
Vern.—Garkum, budhal, túmbri, NW. P.; Bodara, Buas; Siálu, Chenab; Prot, Kashmir; Tilpattra, chitpattra, kurkui, Jhelum;	
Tumri, Kumaun; Timil, Nepal; Palet, Lepcha; Tapuya, Burm.; Marlea, marlisa, Sylhet.	•
A small tree of the outer Himalaya from the Indus to Bhutan, ascend-	
L 1 163 .	•
_	

682

683

684

KELANOR RHŒA.

ing in the North-West to 6,000 feet, and in Sikkim to 0,000 feet; of the Khasia Hills, Eastern Bengal, Chittagong, and Martaban. Wood wnite, soft, even-grained. Weight 42 lbs. per cubic foot. The wood is used for native houses in Sylhet. lbs. H 2831. The Glen, Simla, 6,000 feet. 42 MEDINILLA. Medinilla himalayana, H. fil, Melastomace E. An epiphytic shrub, found in Sikkim Hills, 3,000 to 6,000 feet, and in the Khasia Hills at an altitude of 5,000 feet. Wood grey, soft; medullary rays of lighter colour than the rest of E 3666. Rissom, Darjeeling, 6,000 feet. MELALEUCA. Melaleuca Leucadendron, Linn., MYRTACEE. Syn.-M. CAJUPUTI, Roxb. (Fl. Ind., iii, 394.) Vern.--An evergreen tree met with in Tenasserim. Wood reddish-brown, hard. lhs. O 3270. Saharanpur Gardens. E 3714. R. B. Gardens, Calcutta 46 M. rotundifolia. Vern.-Wood has structure similar to that of Ma Leucadendron. Weight so lbs, per cubic foot. lbs. E 3715. R. B. Gardens, Calcutta . 50 MELANORRHŒA. Melanorriica usitata, Wall., Anacardiace E. THE VARNISH TREE OF BURMA. Vern .- Kheu, MANIPUR; Thitseeben, BURM.; Soothan, TALEING; Kaihong, KAREN. A medium sized deciduous tree found in Manipur and Burma. Wood dark-red with yellowish streaks, turning very dark after long exposure; very hard. Weight about 60 lbs. per cubic foot. The wood is used for tool handles, anchor stocks, and has lately been recommended for building, railway sleepers, gun-stocks, and other purposes, lbs. Moulmein, Burma B 551. B 2518. Burma (1862)

•	
•	MELI
MELASTOMA	
Melastoma Malabathricum, Linn., Melaslomace.	685
THE INDIAN RHODENDRON.	
Vern.—Choulisy, Nepal; Tungbram, Lepcha; Shapti, tunka, Mechi;	
Myetpyas, BURM. A large shrub found throughout India up to 6,000 feet, chiefly near	•
water-courses.	
Wood moderately hard, light-brown with medullary patches.	
E 3275. Borojhar Reserve, Western Dúars.	
M. Normale, Don.	686
Syn.—M. nepalensis, Lodd.	_
A large shrub of the Himalaya from Nepal to Bhutan between 2,000 and 6,000 feet, and Khasia Hills 4,000 feet.	•
Wood light-brown, moderately hard. E 3665. Rinkinpung, Darjeeling, 3,000 feet.	
12 3003. Minimpung, Darjooning, 3,000 leed	
melía.	
-	687
Melia Azadirachta, Linn., Meliaceæ.	007
THE NEEM TREE OF MARGOSA TREE.	
SynM. INDICA, Brandis, in Gamble, 69; AZADIRACHTA INDICA, Adr. Juss.	
Vern.—Asad-darakht, neb, Pers.; Nim, Hind.; Betain, Kumaon; Agas, Palamow; Limbo, C. P.; Kohumba, G. ε; Nimuri, Sindi; Veyham, ΤΑΜ; Υαρα, γερα, tarika, vempa, Tel.; Limb, nimbay, Mar.; Bakúyan, Bom., and Sind; Bevina, bévu, heb-bevu, Kan.; I himbauta-makka, thimbau bhempu, Burm.	•
A large tree planted and self-sown throughout the greater part of	
India and Burma. Sapwood grey; heartwood red, very hard. Weight about 50 lbs. per	
cubic foot.	
The wood is used for the construction of carts, in ship-building, and	
for making agricultural implements, and in South India for furniture. It is held sacred by Hindus, and idols are made of it.	
lbs.	
P 463. Ajmere (sapwood) 48 D 1053. Salem, Madras 53	
No. 11. Salem Collection 59	
C 3647. Daltonganj, Palamow	
•	
M. Azedarach, Linn.	688
THE PERSIAN LILAC, BASTARD CEDAR OF BEAD TREE.	
VernDrek, bakain, bakayan, betain, deikna, bakarja, Hind.; Ghoranim, Beng.; Chein kachein, Suflej; Maha limbo, malla nim, muhli, C. P.; Bakainu, Nepal.; Malvembu, mallay vimbu, Tam.; I araka vepa, makanim, Tel.; Bévu, chik bévu, Kan.; Ta-ma-kha, Burm. A tree commonly cultivated throughout India, and believed to be indigenous in the outer Himalaya, Siwalik tract, and the hills of Belu-	
chistan. Sapwood yellowish-white; heartwood soft red. Weight 30 to 40 lbs. Dr. Bidie says the leaves contain green colouring matter, a fact which seems to be unknown in India generally.	

ELIOSMA.	
•	Wood used for furniture. Beddome, Brandis and Kurz all say it warps and solits, but it is probably better than it has been supposed to be. It is very handsomely marked and polishes well. lbs.
_	P 146. Sainj, Giri Valley, Punjab 38 P 946. Lahore, Punjab 35 P 1201. Madhopur, Punjab 40
89	Melia dubia, Cav. Syn.—M: COMPOSITA, Willd.; M. SUPERBA, and M. ROBUSTA, Roxb. (Fl. Ind., ii, 396-7.)
•	Vern.—Eisúr, limbarra, nímbarra, Bom.; Lapshi, Nepal; Dingkurlong, Khasia Hills; Mallay vembu, Tam.; Bévu, betta bévu, kad bévu, Kan.
٠ ،	A large deciduous tree, met with in the Eastern Himalaya, South India, Ceylon, and Burma. Sapwood grey; heartwood reddish-white, soft. Weight 26 to 33 lbs.
	per cubic foot. Used for building in South India. The wood will probably be found useful for tea-boxes and similar purposes, and the tree should be cultivated on account of its rapid growth.
	E 705. Great Rangit Valley, Darjeeling
690	M. sempervirens, Sw. This species is often given as a synonym for M. Azadarach, Linn. (Specimens wanted.)
•	MELIOSMA.
691	Meliosma dilleniæfolia, Bl., Sabiaceæ. Vern.—Porda, parenga, philli, Simla; Gwep. NW. P. A small deciduous tree, found throughout the Himalaya, from 4,000 to 11,000 feet, from the Sutlej to Bhutan. Wood white, soft, even-grained. Weight 35 to 38 lbs. per cubic foot.
	H 60. Nagkanda, Simla, 8,000 feet
692	M. simplicifolia, Roxb. (Fl. Ind., i, 103.) Syn.—Millingtonia, Roxb. Vern.—Košrú, Nepal; Hingman, Lepcha; Koko, laigongron, Mechi Dibrú, Ass.; Dantrungi, Sylhet; Rong, Chittagong; Gokpak, Magh An evergreen tree of the Eastern Himalaya, Assam, Chittagong
	Burma, South India, and Ceylon. Wood reddish, moderately hard, warps. Weight 36 lbs. per cubic fool lbs.
	E 2339. Sivoke, Darjeeling Terai 36
693	M. Wallichii, Planch. Vern.—Dabdabbi, nunewalai, Nepal; Himan, Lepcha. A large deciduous tree, met with in the Eastern Himalaya and Khási Hills, above 5,000 feet. Wood white, very soft, spongy. Weight 18 lbs. per cubic foot.
•	166

Timbers.	[PART VI]
It is used only for firewood, and occasionally for boxes. E 361. Rangbúl, Darjeeling, 7,000 feet	MERIAN- DRA.
MELOCANNA.	
Melocanna bambusoides, Trim., Graminem. Bamboo. Syn.—Bambusa baccifera, Roxb. Vern.—Múli, metunga, bish, Beng.; Kaoung-wa, Magh. (Gamble.) The common gregarious bamboo of the Chittagong hills; it does not grow in clumps but spreads by means of underground root-stocks. Stems 50 to 70 feet long, 12 to 13 inches girth.	694
It is of good quality, durable, straight, and with straight knots, and is very largely cut and exported for house-building, mats, and other purposes. E 1325. Chittagong.	•
M. humilis, Kurz (ii, 569.) Vern.— A small bamboo of Arracan and Pegu. Stems 8 to 15 feet. (Specimens wanted.)	695
M. Kurzii, Munro. Syn.—Cephalostachyum schizostachyoides, Kurs. Vern.— A bamboo found in the Andamans. Stems 20 to 30 feet. (Specimens wanted.)	696
MEMECYLON.	•
Memecylon edule, Roxb., Melastomacer. Vern.—Alli-cheddu, Tel.; Anjan, kurpá, Bom. The Flora of British India gives 12 varieties of this plant. It is a small tree, met with in the Eastern Peninsula, Ceylon, Tenasserim and the Andaman Islands. (Specimens wanted.)	697
Var. 1. typica. Syn.—M. TINGTORIUM, Kæn.; M. UMBELLATUM, Burm. Vern.—Alli-(heddu, Tel.; Aujan, kurpá, Bom.; Wary-káhá, korá-káhá, Cingh. A small tree or shrub met with in the Eastern Peninsula, Ceylon, Tenasserim, and the Andaman Islands. Wood strong, durable, very hard, and close-grained. Beddome says it might answer as a substitute for boxwood. (Specimens wanted.)	698
MERIANDRA,	
Meriandra strobilifera, Benth., Labiate. Vern.— A small shrub met with in the North-West Himalaya, about 6,000 feet, chiefly found on dry rocks, especially limestone. Wood white, hard. H. 2839. Simla, 6,500 feet.	699

MICHELIA

MESUA.

700

Mesua ferrea, Linn., GUTTIFERE.

Vern.—Nagesar, Beng.; Nahor, Ass.; Nageshvoro, Uriya; Nangal, mallay nangal, Tam.; Naga-kesara, Tel.; Nang, Tinnevelly; Naga sampigi, kesara, Kan.; Nag-champa, Mar.; Behetta-champagam, Mal.; Na, deya-na, Cingh.; Kaing-go, Magh.; Gangau, Burm.; Nahsher,

A large evergreen tree, met with in Eastern Bengal from the Monas . eastward, in Assam, South India, Ceylon, Burma, and the Andamans; often cultivated.

Heartwood dark red, extremely hard, very durable. Weight generally

70 lbs. or more per cubic cot. It has been found to answer for sleepers equally well with Pynkado, iron-wood, but the cost of cutting the hard wood, its weight, and the freight from the Tenasserim forests to Calcutta prevent its being much used, as the total cost is scarcely covered by the price (Rs. 5) per broad-gauge sleeper. It is used for building, for bridges, gun-stocks, and tool handles; but its more general use is prevented by its great hardness, weight, and the difficulty of working it.

									lbs.
E		Eastern Dúar	57 A	sam			•		64
E	793.	Kámrup		,,	•			•	61
E	2190.	Nowgong		,,	•	•			75
E	1273.	Cachar .				•			70
W	741.	South Kanara	ı.						62
\mathbf{B}		Burma (1862				•			69
В		Martaban					•	•	75
В	2700.	Tavoy (Walli	ch, I	828)					60
В	2238.	Andamans (A	<i>Major</i>	Ford,	1866) .	•		76
В	2491.	" (h	lome,	1874,	No.	10)	•		67
В	520.	,, .	•		•	•			74
No	· 59·	Ceylon Collec	tion (Mesus	ı Nag	(aha)			72
E	3687.	Chittagong	•						7 t

MEZONEURUM

701

Mezoneurum cucullatum, W & A., Leguminos E.

Syn.—Cæsalpinia cucullata, Roxb. (Fl. Ind., ii, 358.)

Vern.—Biskoprah, Oudh; Sungray, Nepal; Rungong, yangkup, Lepciia; Ragi, Bom.; Kyoungchet, BURM.

A large climber, stems and branches armed with strong hooked prickles with a corky base, found in the sub-Himalayan tract from the Sarda eastwards, in the Western Ghâts and Burma.

E 488. Darjeeling Terai.

MICHELIA.

702

Michelia Cathcartii, Hook. f. and Th. MAGNOLIACE E.

Vern. — Kala champ, NEPAL.; Atokdúng, LEPCHA.

A large tree of the Sikkim Himalaya, 5,000 to 7,000 feet.

Sapwood large, white, heartwood dark olive-brown, moderately hard. Weight 41 lbs.

lbs.

Wood used for planking; will do well for tea-boxes.

2314. Rangbúl Forest, Darjeeling, 6,500 feet

3321. Darjeeling, 6,500 feet.

	4.
Timbers.	PART VIL
	MICHELIA.
Michelia Champaca, Linn.	703
Vern.—Champa, Hind.; Oullia champ, Nepal; Titasappa, Ass.; Champa, champaka, Beng.; Shimbu, sempangam, Tam.; Champakamu, sampen- ga, kanchanamu, Tel.; Sampighi, Kane; Champakam, Mal.; Tsaga, Burm.	
A tall and large evergreen tree, with yellow sweetly-scented flowers, cultivated throughout India from the Ravi southwards and up to 5,400 feet in the North West Himalaya. Wild in Nepal, Bengal, Assam (ascending to 3,000 feet), Burma, and in the forests of the Western Ghâts as far as Kanara.	· 6
Wood soft, seasons and polishes well; sapwood white; heartwood light olive-brown. Weight about 40 lbs. The wood is very durable, e.g., specimen No. 1437 was cut by Griffith in 1836, and has been since then in Calcutta, and is now as sound as if fresh cut.	· :
The wood is used for furniture, house-building, carriage work and native drums. It is considered valuable in Northern Bengal for planking, door-panels, and furniture; and in Assam for building and canoes.	
lbs.	
M. excelsa, Blume. WHITE MAGNOLIA.	704
Vern.—Bara champ, safed champ, NEPAL; Sigugrip, pendre, LEPCHA;	
Gók, Внитта. A lofty decidnous tree of the Eastern Himalaya, from 6,000 to 8,000 feet, and of the Khásia Hills.	
Wood soft; sapwood small, white; heartwood olive-brown, glossy. According to Gamble, the wood is yellow when fresh cut. Weight 33 to 34 lbs. per cubic foot. The wood is very durable, e.g., specimen No. 1442 was cut in 1836 and kept since then in Calcutta; the wood is now as sound as if fresh cut.	•
Used for building, but chiefly for planking, door and window frames, and for furniture. The principal building and furniture wood of the Darjeeling Hills.	
E 657. Chuttockpur Forest, Darjeeling, 6,000 feet 33 E 2312. Rangbúl Forest, Darjeeling, 7,000 feet 33 E 1442. Mishmi Hills (Griffith, 1836)	
E 3583. Darjeeling, 7,000 feet.	
M. lanuginosa, Wall. Vern.—Gogay champ, NEPAL.	705
A large deciduous tree of Sikkim and the Khásia Hills, from 5,000 to 7,000 feet. Wood grey, soft, shining. Weight 27 to 36 lbs. per cubic foot.	
Bs. E 3099. Darjeeling, 7,000 feet	
M. oblonga, Wall.	706
Vern.—Sappa, phulsappa, Ass. A tre? of the Khásia Hills and Assam.	

BART VII.] . Economic Products of India.
MILIUSA.	
•	Sapwood white, heartwood dark-grey, soft. Weight 40 lbs. per cubic foot. The wood is used in Assam for canoes and rough furniture,
•	Ibs. E 1268. Lakhimpur, Assam 40
	° MICROMELUM.
707	Micromelum.pubescens, Bl., RUTACEÆ. Vern.—Lasmani, Nepal; Kumbrong, Lepcha; Tanyenghoo, Burm. A small tree of the Eastern Himalaya, Assam, Eastern Bengal, South India, and Burma. Wood rather heavy, hard, close-grained, yellowish-white. E 3355. Teesta Valley, Darjeeling.
	MICROTROPIS.
*** 0	
708	Microtropis discolor, Wall, CELASTRINEE. Syn.—EUONYMUS GARCINI. LIA, Roxb. (Fl. Ind., i, 628.) Vern.—Suglim, Lepcha; Mori, Sylhet. A small tree of the sub-tropical Himalaya. Wood white, soft. Weight 35 lbs. per cubic foot.
	E 3345. Lebong, Darjeeling 35
	MILIUSA.
709	Miliusa Roxburghiana, Hook. f. and Th., Anonace. Syn.—Uvaria dioica, Roxb. (Fl. Ind., ii, 659.) Vern.—Sungden, Lepcha; Tusbi, Sylhet. A small tree, met with in the Terai valleys of the Bengal Himalaya, Khásia Hills, Chittagong, and Burma. Wood greyish-white, hard. Weight 51 lbs.
	E 2316. Chunbati, Darjeeling, 2,000 feet 51
710	M. velutina, Hook. f. and Th. Syn.—UVARIA VILLOSA, Roxb. (Fl. Ind., ii, 664.) Vern.—Dom-súl, Hind.; Kari, C.P., Kharrei, Oudh; Peddachilka dúdúga, nalla dúdúga, Tel; Thabútgyee, Burm. A deciduous moderate sized tree, with a short erect trunk; in Burma a large tree found in the sub-Himalayan tract from Nepal to the Ganges, in Central India, Godaveri districts, and Burma. Wood yellow when fresh cut, grey or greyish-brown when dry; moderately hard. Brandis says: "The seasoned wood weighs from 40 to 50 per cubic foot:" Kurz gives the weight at 42 lbs.; Benson's experiments give 60; and Skinner's (No. 93) 50 lbs. Benson's experiments
	give P=833, and Skinner's P=839. Used for carts and agricultural implements, spear-shafts, and oars.

lbs. ... 48 53 B 3062. Prome, Burma B 3122. Burma (1862). O 3113. Dehra Dun.

Timbers.	PART VII.
•	MIMOSA.
MILLETIA. •	•
Milletia auriculata, Baker., Leguminosæ. Syn.—Robinia Macrophylla, Roxb. (Fl. Ind., iii, 329); Otosemma Macrophylla, Bth. Vern.—Mandh, Oudh; Gonjha, ganj, Kumaun; Hél, Kol; Jirhúl, Kharwar; Gurúr, Gond; Goujo, benrik, Lepcha. A very common large climber of the sub-Himalayan tract, from the Sutlej to Bhutan, ascending to 3,500 feet. No. 3479. Sukna Forest, Darjeeling Terai.	711
M. pendula, Bth. Syn.—M. LEUCANTHA, Kurs (i, 356.) Vern.—Thinwin, Burm. A. deciduous tree, found in the savannah forests and dry lower kill forests of Burma, up to 2,000 fect, with small purplish-black heartwood, beautifully streaked out, very hard. Weight 60 to 70 lbs. per cubic foot.	712,
The wood is used for cross pieces of harrows and is worthy of attention for its beautiful grain and dark colour. B 2520. Myodwin, Burma (1862)	
MILLINGTONIA.	3
Millingtonia hortensis, Linn., BIGNONIACEÆ. THE INDIAN CORK TREE. Syn.—BIGNONIA SUBEROSA, Roxb. (Fi. Ind., iii, 111.) Vern.—Nimi chambeli, akas-nim, HIND.; Aykayet, BURM.; Kát malli, TAM. A large tree, cultivated in avenues and gardens in most parts of India, believed to be indigenous in Burma and the Malay Archipelago. Kurz says it is rather rare in the tropical forests from Martaban down to Tenasserim. Wood soft, yellowish-white. Weight about 40 lbs. per cubic foot. O 3160. Saharanpur Gardens	ł
MIMOSA.	
Mimosa rubicaulis, Linn., Leguminosæ, Syn.—M. mutabilis, Roxb. (Fl. Ind., ii, 564.) Vern.—Rál, khair, didriár, Pb.; Hajeru, Sind; Agla, agl, kingli, kacheyta, Hind.; Dandu, deta, Kol.; Arai, Kharwar; Aradi, Nepal; Sibriá, Lepcha; Chilatti, Bhil. A large, straggling, prickly shrub, found throughout the greater part of India, ascending to 4,000 feet in Kumaun and Sikkim.	714

AKI VII.	Leonomic 1 rounces by India,
MIMUSOPS	
•	Sapwood yellowish-white; heartwood red, hard. Weight 41 to
	52 lbs. Used for gunpowder charcoal.
•	E 680. Bamunpokri, Darjeeling Terai 41 E 2354. Chunbati, Darjeeling, 2,000 feet 52
•	MIMUSOPS.
715	Mimusops Elengi, Linn., SAPOTACEÆ.
,	Vern.—Bukal, bohl, Beng., Mulsári, maulser, Hind.; Magadam, Tam.; Pogada, Lel.; Bokal, boklu, mugali, Kan.; Barsoli, Meywir; Vavoli, ovalli, Mar.; Elengi, Mal.; Khaya, Burm.; Moonemal, Cinch. A large, evergreen tree, largely cultivated; said to be wild on the Western Ghâts as far north as Khandalla, North Circars, Burma, Andaman Islands, and Ceylon.
	Sapwood large, whitish, very hard. Heartwood red. Weight about 50 lbs. Beddome says the wood is used for house-building, carts, and cabinetwork.
	W 1223. North Kanara
7 2.6	M. indica, A. DC. Syn.—M. HEXANDRA, Roxb. (Fl. Ind., ii, 238.) Vern.—Khir, khirni, HIND.; Rain, Meywar; Palla, kannu-palle, Tam.; Palle panlo, palla pandu, Tel.; Khirni, Mar.; Raini, Gond; Pala, Cingh. A large evergreen tree, met with on the Mountains of South India, extending in Central India to the sandstone hills of Pachinari, north of the Godavari. It is only found on sandstone, and frequently associated with Buchanania angustifolia and Hardwickia binata. Heartwood red, very hard, tough, even-grained, and durable. Weight 60 to 72 lbs. per cubic foot. It is used for sugar-mill beams, oil-presses, house-posts, and for turning.
	D 1283. Anamalai Hills 60 No. 65. Ceylon Collection 68 C 3551. Khurdha forests, Orissa
717	M. littoralis, Kurs (ii, 123.) Andaman Bullet Wood.

Syn.—M. INDICA, Kurs. (And. Report; Brandis, 292.) Vern.—Kappali, Burm.; Dogola. And.

A large evergreen tree of the Coast forests of the Andaman Islands and Tenasserim, in the Andamans, forming nearly pure forests on the level lands behind the beach and the mangrove swamps.

Wood handsome, red, smooth, very hard, close-grained, and durable,

but apt to split.

Timbers.	PART'VII.
•	MORINDA.
It is used in the Andamans for bridges and house-posts, and Major Ford (1866) said it had been sent to Calcutta to be tried for sleepers. B .513. Andaman Islands	
MISCHODON.	
*Mischodon zeylanicus, Thw., Euphorbyace	718
Vern.—Tamana. A large handsome tree of Ceylon, and found by Beddome in Tinne-	
velly. Wood good. (Specimens wanted.)	, ,
MITREPHORA.	
Mitrephora grandiflora, Beddome (t. 91), Anonaceæ.	719
Vern.— A large handsome tree of the South Kanara forests. (Specimens wanted.)	
M. Vandæflora, Kurz (i, 45.)	720
A tree of the forests of Chittagong and Pegu, but chiefly found in th Martaban Hills. Wood grey, moderately hard. B 3380. Hills east of Tounghoo, British Burma.	e
MORINDA.	
Morinda exserta, Roxb. (Fl. Ind., i, 545; Gamble, 232.) Rubia	- 721
Vern.—Al, ach, HIND.; Alberi, alládi, PANCH MEHALS; Hardi, NEPAL Noona, TAM; Toghur, togara-mogali, mogali, manjapavatti,, Tel. Achu, URIYA; Nyau, BURM.; Ali, GOND. A moderate sized deciduous tree of Bengal, Burma, Guzerat, an South India. Wood red, often yellow, with red streaks, or brown, moderately hard close-grained. Weight about 40 lbs. per cubic foot. It is durable Wallich's specimen (No. B 2690) cut in Burma in 1828, was quite soun when cut up after 50 years in Calcutta. It is used for making plates and dishes.	d d,
C 1130. Ahiri Reserve, Central Provinces	
The Flora Indica regards Exserta, Roxb., as a mere sexual for with protruding stamens of M. citrifolia, Roxb., and M. tinctoria, Rox	6.

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Moringa concanensis, Nimmo, Moringe E.

Vern.—Sainjna, RAJPUTANA.

A tree of Rajputana, Sind, and the Konkan.

Wood white, soft, in structure resembling that of M. pterygosperma, and the wood apparently not used.

E 3226. Nagpahar, Ajmere.

723

M. pterygosperma, Gaerin.

THE HORSE RADISH TREE.

Svn.-Hyperanthera Moringa, Roxb. (Fl. Ind., ii, 368.)

Vern.—Soanjna, sanjna, senjna, sejna, sohajna, sainjan, HIND.; Sujuna, BENG.; Segata, segasá, Bom.; Swanjera, SIND.; Munigha, URIYA: Morunga, TAM.; Saihan, sejan, munga, mulaka, TEL; Nuggee, KAN.; Daintha, dan-tha-lone, BURM.

A tree, wild in the sub-Himalayan tract from the Chenab to Oudh: commonly cultivated in India and Burma on account of its leaves. flowers, and pods, all of which are eaten.

Wood soft, white, spongy, perishable. Wood cells large, prominent.

E 3214. Calcutta.

MORUS.

724

Morus cuspidata, Wall, URTICACEE.

MULBERRY.

Syn.-M. SERRATA, Roxb.

Vern. - Kimbu, NEPAL; Nambyong, LEPCHA; Singtok, BHUTIA; Bola, ASS. A tall tree met with in the valleys of the outer Eastern Himalaya. from Sikkim to Assam. It often reaches a very large size; trees over 100 feet in height are not uncommon in the valleys of Teesta and Great

Wood yellow, with yellowish-brown heartwood, hard, close-grained, with a beautiful lustre. Weight about 45 lbs. per cubic foot.

The wood is used in Assam for boat oars and furniture; it does not seem to have been much used for tea-boxes, but would be extremely suitable. It resembles that of M. serrata and would be good for planking, furniture, and cabinet-work.

E	706.	Great Rang	git Valley	, Dar	jeelin	g, 3,5	soo fee	et .	42
E	3396.	2)))	, ,,		,,	1,0	00 ,,		44
E	656.	Bamunpok	i, Darje	eling			•		48
		Eastern Di		am			•	•	47
E	2196.	Nowgong,	Assam	•	•			•	42
Ε	2305.	Kamrup,	••				•		40

725

M. indica, Linn.

Vern.—Túl, PB.; Tutri, HIND.; Shahtút, KUMAUN; Tút, BENG.: Chhota kimbu, NEPAL; Mekrap, LEPCHA; Nuni, Ass.; Posa, BURM.

A moderate sized deciduous tree found in the sub-Himalayan tract ascending to 5,000 feet, in the Sikkim valleys up to 4,000 feet; Čultivated throughout North India.

Wood yellow with darker streaks of various colours, hard. Weight 42 to 47 lbs. per cubic foot. lbs.

P 891. Multán .				42
P 1195. Madhopur			•	47

174 (

Timbers	PART VII.
•	MURRAYA.
Morus serrata, Roxb. (Fl. Ind., iii, 596.) Vern.—Karún, tút, káura, túlúkúl, soá, án, shta, chimu, kimu, PB.; Kimu, kimu, HIND. A large deciduous tree, found in the North-West Himalaya between 4,000 and 9,000 feet. It is often of very large, size. Dr. Stewart noted several trees of 20 feet girth, and one at the Hindu temple at Barmaor, Chamba, 7,000 feet of 28 feet girth. Sapwood small, white; heartwood yellow or brown, moderately hard. Weight 35 to 36 lbs. per cubic foot. It works well, does not warp, and takes a beautiful polish, shewing a golden lustre. It is used for troughs, agricultural implements and for cabinet-	•
work. It is much esteemed by the Simla wood-carvers. H 3174. Dungagalli, Hazara, 7,000 feet H 10. Julung, Simla, 4,000 feet B 28. Madhan, Simla, 5,000 feet H 95. Simla, 6,000 feet B 35 H 95. Simla, 6,000 feet	
MUCUNA.	
Mucuna macrocarpa, Wall., Leguminosæ. Vern.—Balengra, Nepal. An enormous climber of the hills of Sikkim, Khásia, Sylhet, and Burma up to 7,000 feet. Wood fibrous, soft, grey, black when dry, white when fresh cut. It is composed of concentric rings, the inner part of which is a black tissue having tongues radiating outwards into a lighter tissue full of large and very large pores, which are often sub-divided. E 3575. Darjeeling.	
MURRAYA,	
Murraya exotica, Linn., Rutace. Vern.—Marchula, juli, Hind.; Kamini, Beng.; Naga golunga, Tel.; Raket-berár, Gond.; Simali, Nepal.; Shitzem, Lepcha; Makay, Burm.; Machalla, And. A shrub or small tree met with in the outer Himalaya from the Jumna to Assam, ascending to 4,500 feet, in Behar, South India, Burma, and the Andaman Islands. It is often planted for ornament, and is sometimes called "Satinwood" at Port Blair. Wood light-yellow, close-grained, very hard, apt to crack. Weight 62 lbs. per cubic foot!	
The wood resembles boxwood, and has been tried for wood-engraving, for which it seems suitable if well seasoned; it is also used for handles of implements. B 3195. Andaman Islands (Home, 1874, No. 24) B 519. Andaman Islands No. 26. Cerlon Collection C 3495. Kolhan Forests, Singbhum, Chutia Nagpur M. Konigii, Spr. Syn.—Ergera Konigii, Linn. (Roxb. Fl. Ind., ii, 375.) Vern.—Gandla, gandi, bowala, Pb.; Harri, katnim, Hind.; Barsanga, charangi, Hyderabad; Gant, Banda; Húmwah, Mechi; Karsepak, kari-vepa, Tel.; Kamwebila, Tam.; Kari bevu, Kan. A small tree of the outer Himalaya from the Ravi to Assam, Bengal, South India, and Burma.	
Wood greyish-white, hard, and durable. Weight 43 lbs. per cubic foot. It is used for agricultural implements.	
	•

RSINE.	•
	MYRICA.
730	Myrica sapida, Wall, Myricace E.
750	Vern.—Kaphal, karphal, N. W. P.; Kayaphala, Bom.; Kobusi, Nepal; Dingsolir, Khasia.
	A moderate sized evergreen tree of the outer Himalaya, from 3,000 to 6,000 feet, the Khásia Hills, and hills of Burma between 4,000 and 6,000 feet.
	Wood purplishegrey, hard, close-grained, apt to warp.
	Weight 48 lbs. per cubic foot. lbs.
	H 87. Sutlej Valley, 5,000 feet 46
•	H 426. Ghite Forest, Jaunsar, 5,500 feet 45 E 799. Khásia Kills, about 5,000 feet 52
	MYRICARIA.
73I	Myricaria germanica, Desv., Tanariscinez.
75-	Vern.—Bis, shalokát, kathi, humbu, PB.; Ombu, LAHOUL.
	A shrub inhabiting the inner Himalaya from Punjab to Sikkim. Wood hard, white.
	Used for fuel. lbs.
	H 133. Lahoul, 10,000 feet
	MYRISTICA.
700	Myristica Irya, Gaerin., Tamariscineæ.
732	Vern.—Maloh, Burm.; Mutwindá, chooglum, And.
c c	A moderate sized evergreen tree of Burma, Andaman Islands, and
	Ceylon.
	Wood dark olive-grey, hard, close-grained. Weight 52 lbs. per cubic foot. A handsome wood and worthy of attention; it seasons well and
	takes a good polish.
	B 509. Andaman Islands 52
200	M. malabarica, Lamk.
733	Vern.—Kúnagi, KAN.; Pindi-kai (seeds).
	A small evergreen tree of South Kanara and Malabaria
	Wood reddish-grey, moderately hard. Weight 32 lbs. per cubic foot.
	Used for building.
	W 736. South Kanara
	MYRSINE.
734	Myrsine africana, Linn., Myrsine
,,,,	Vern. – Bebrang, kakhum, kokhúri, karuk, gugul, jutru, chachri, pratshu- branchu, khúshin, pápri, bandáru, binsín, atuljan, PB.; Guvaini, pahari cha, chúpra, N. W. P.
	A small evergreen shrub found in Afghanistan, Salt Range, and outer Himalaya as tar as Nepal.
,	Wood white, moderately hard. Weight about 50 lbs. per cubic foot The shrub might be useful for hedges. lbs.
	H 2829. Simla, 6,000 feet 49
	176

Timbers.	[PART VII.
•	- NEPHELI-
Myrsine capitellata, Wall. Syn.—M. Wightiana, Wall.; M. Avenis, DC. A small tree found in Eastern Bengal, Hills of Southern India, Ceylon and Burma.	735
Wood moderately hard, pink; said by Beddome to be hard and durable. Weight 22 lbs. per cubic foot. (Wallich.) E 3663. Dumsong, Darjeeling, 5,000 feet	
M. semiserrata, Wall. Vern.—Purwana, küngküng, gogsa, bamora, gaunta, HIND.; Chupra, Kumaun; Bilsi, beresi, kalikatha, bilauni, Nepal; Tungcheong, Lepcha. A shrub, small or middling sized tree, met with in the outer Himalaya from the Beas to Bhutan, from 3,000 to 9,000 feet, and the Nattoung Hills of Martaban. Wood red, hard. Weight 51 lbs per cubic foot. Wallich says it is chocolate-coloured, heavy, hard, and handsome. Used in Nepal for carpenters' work. (Wallich.) It splits rather, and is usually too small for anything but firewood. H 2830. The Glen, Simla, 6,000 feet E 3322. Darjeeling, 6,500 feet	•
Native houses—Woods used in the construction of. See APPENDIX.	
NAUCLEA.	
Nauclea rotundifolia, Roxb. (Fl. Ind., i, 516), Rubiacer. Vern. Bingah, Burm. A large or moderate sized tree of Burma and the Andaman Islands, Wood yellowish-brown, moderately hard, close and even-grained. Weight 47 lbs. per cubic foot. Wood not used, but likely to be of value for furniture and general	737
B 2536. Burma (1862) 51 B 2288. Andamans (1866) 44	
NECTANDRA.	
Nectandra Rodicei, Rob. Schomb., LAURACEE. GREENHEART. A tree of the West Indies. Wood dark-brown, very hard and heavy, with the centre almost black. Weight about 70 lbs. per cubic foot. Largely used for ship building. No. 2901. Demerara	738
NEPHELIUM.	į
Nephelium Litchi, Camb., Sapindace. The Litchi.	739
Syn.—Scytalia Litchi, Roxb. (Fl. Ind., ii, 269.) Vern.—Litchi, Hind. (originally Chinese); Kyetmouk, Burm. A handsome evergreen tree, introduced from South China, and now cultivated largely in India for its delicious fruit. Wood red, hard, heavy. Weight about 55 lbs. per cubic foot. O 3260. Saharanpur.	

YSSA. ·	,
740	Nephelium Longana, Camb. THE LONGAN.
	Syn-Euphoria Longana, Lamk.; Scytalia Longana, Roxb. (Fl.
•	Ind., ii, 270.) Vern.—Ashphal, Beng.; Poovati, TAM.; Puná, Courtallum; Wumb, Bom.; Mal ahcotá, KAN.; Kyetmouk, Burm.; Morre, Cingh.
	Bom.; Mal ahcotá, Kan.; Kyetmouk, Burm.; Morre, Cingh. A modefate sized evergreen tree, met with in Mysore, Western Ghâts,
	and Burma. It is also found in China, where it is called Longan.
	Wood red, moderately hard. Weight 44 to 62 lbs. per cubic foot. The wood is not used, though Kurz says it is good for furniture. It
	deserves notice.
	D 1278. Anamalai Hills, Madras 51 No. 57. Ceylon Collection 62
•	NERIUM.
74 I	Nerium odorum, Solander., APOCYNEE.
	Vern.—Kanira, kaner, ganhira, PB.; Kanyur, KUMAUN. A large shrub of South-West and Central India, Sind, Afghanistan,
	outer Himalaya to 5,500 feet.' Often cultivated. Wood greyish-white, soft.
	H 3057. Murree Hills, 5,000 feet
	NYCTANTHES.
742	Nyctanthes Arbor-tristis, Linn., OLEACEE.
	Vetn.—Hár, siháru, harsinghár, saherwa, seoli, nibari, Hind.; Singhár, harsinghár, sephaliká, Beng.; Samsihar, Kharwar; Saparáng, Kol.; Harásingara, párijátaka, Bom.; Hursing Kan.; Pakúra, laduri, kuri, sháili, Pb.; Kirsahár, Baigas, Khersári, Gond.; Khúrasli, Mar.; Karassi, Bhil.; Gongo, seoli, Uriya.; Manja-pu, (paghala), Tam.; Poghada, Karchiá, Tel.; Tsaybceloo, Burm.
	A small shrub of Central India, ascending to altitude 3,000 feet, and extending to Bengal and Burma. Cultivated throughout India. Wood brown, close-grained.
	Used for fuel.
	(Specimens wanted.)
	NYSSA.
743	Nyssa sessiliflora, Hook. f., OLEACEE. Syn.—ILEX DAPHNIPHYLLOIDES, Kurs (Hook, Fl. Ind., i, 606.)
	Vern.—Kalay, cnilauni, NEPAL.; Tumbrung, LEPCHA.
	A large tree of the forests of the Sikkim Himalaya above 5,000 feet, and of Martaban between 4,000 and 6,000 feet.
	Wood grey, soft, even-grained. Used for house-building and other purposes about Darjeeling. 1bs.
•	E 695. Chuttockpur, Darjeeling, 6,000 feet 39 "E 3608. Darjeeling, 6,000 feet.
	178

Timbers.	PART V
•	· ODINA.
ochna.	
Ochna andamanica, Kurz, Ochnacez.	744
A small glabrous tree, met with in the tropical and moister upper mixed forests of the Andamans. Wood red or reddish-brown, hard, and somewhat brittle. Weight 58 lbs. per cubic foot.	
B 1978. (1866) Andamans 58	
O. squarrosa, Linn. Vern.—Sunari, yerra-juvi, Tel.; Narole, mudah, Kan.; Koniara, URIYA. A shrub or small tree of Bengal, Burma, and South India. Wood reddish-brown, moderately hard, close-grained. Weight 51 lbs. per cubic foot.	745 .
C 1305. Gumsúr	
O. Wallichii, Planch. Vern.—Yodayah, Burm. A deciduous tree of Burma. Wood light-brown, hard, close-grained. Weight 54 lbs. per cubic foot. lbs.	746
B 3132. Burma (1862) 54	
ODINA.	•
Vern.—Kiamil, kimúl, kamldi, kashmaln, jhingan, mowen, mohin, moyen, ginyan, HIND.; Garja, BIJERAGOGARH; Bara, dabdabbi, halloray, NEPAL; Jiyal, lohgr bhadi, BENG.; Dhoka, LOHARDUGGA; Gob, AJMERE; Wodier, wude, TAM.; Gumpini, gumpna, dumpini, dumpri, dumper, TEL.; Kaikra, gumpri, gharri, GoND; Kekeda, KURKU; Shimti, pinil, gojal, KAN; Moi, moja, moye, MAR.; Hneingpyoing, MAGH; Nabhay, BURM. A moderate sized or large deciduous tree with few branches, met with in the sub-Himalayan tract from the Indus eastwards, ascending to 4,000 feet, and in the forests of India and Burma. Sapwood large; heartwood light-red when fresh cut, turning reddishbrown on exposure, moderately hard, close-grained, seasons well, and does not warp; not very durable. Average weight about 58 lbs. The wood is us of for spear-shafts, scabbards, wheel-spokes, cattle-yokes, oil-presses, and rice-pounders; it might be good for cabinet work. It has been tried for sleepers both in Madras and in the Oudh and Rohilkhand line, but has not succeeded. The tree is pollarded for fodder, especially for elephants. H 3049. Kumharsen, Sutlej Valley, 2,500 feet (sapwood) P 447. Ajmere P 3225 Nagpahar, Ajmere O 226. Garhwal (1868) O 2992. 187. (1874)	747

PART VII	Leonomic 1 rounces by India.
OLEA.	
	C 202. Mandla, C. P. (1870)
	OLAX.
748	Olax scandens, Roxb. (Fl. Ind., i, 163), OLACINEE. Vern.—Dheniani, Hind.; Koko-aru, Beng.; Arthil, Monghyr; Rimmel, Kol.; Bodo-bodoria, Uriya; Kurpodur, murki, malle, turka-vepa, Tel.'; Harduli, urchirri, Mar.; Lailoo, Burm. A large rambling shrub, sometimes a climber of the sub-Himalayan tract in Kumaun, Behar, Central and South India, and Burma. Wood porous, yellowish-white, soft. Weight 38 lbs. per cubic foot. C 1184. Ahiri Reserver Central Provinces C 2762. Moharli C 3467. Bandgaon, Singbhum, Chutia Nagpur C 3494. Kolhan Forests
	•
749	OLEA. Olea ferruginea, Royle, OLEACEE.
	Syn.—O. CUSPIDATA, Wall. Vern.—Khwan, shwan, Trans-Indus; Zaitún, Afg.; Ko, kohú, káo, kau, Pb.; Kau, Hind.; Khau, Sind. A moderate sized deciduous tree found in Sind, Suliman and Salt Ranges, North-West Himalaya, extending as far as the Jumna eastwards, and ascending to 6,000 feet. Sapwood whitish; heartwood large, regularly shaped, from light-brown or olive-brown to nearly black, smooth, extremely hard. Weight 65 to 82 lbs. per cubic foot, averaging 73 lbs. The wood polishes well and is highly prized for turning, for combs, agricultural implements and fuel. It is worth trying as a substitute for boxwood or for the wood of the European olive and for inlaying work, as it is often prettily marbled.
	H 162. Shahpur (Stewart, 1866)
750	O. glandulifera, Wall. Syn.—O. PANICULATA, Roxb. (Fl. Ind., 1,105) not PANICULATA, R. Brown (an Australian species.) Vern.—Gálili, raban, sira, phalsh, Pb.; Gair, galdu, garúr, Kumaun. A moderate sized tree found on the outer Himalaya from the Indus to Nepal, between 2,500 and 6,000 feet, the Nilgiris and Anamalai Hills in South India.

•	OSMAN-
Wood reddish-grey, hard, durable, takes a good polish and is not liable	THUS.
to be eaten by insects. Weight on all average, 54.5 lbs. •	
H 928. Hazara, 3,000 feet	•
ORMOSIA.	
Ormosia glauca, Wall, Leguminosæ.	75I
A large tree of the Central Himalaya. Wood greyish-white, moderately hard.	
E 3356. Sivoke Hills, Darjeeling, 1,500 feet, is probably this species.	•
OROXYLUM.	•
Oroxylum indicum, Bth., BIGNONIACEE.	752
Syn.—Calosanthes indica, Bl., Bignonia indica, Roxb.	\
Vern.—Mulin, miringa, sori, tálpalang, tatmorang, Pb.; Ullu, arlu, kharkatk, pharkath, sauna, assar, sauna, shyona, Hind.; Sona, Hazaribagh; Sanpatti, Monghyr; Arengi banu, Kol.; Sonepatta, Karwar; Tattunúa, C. P.; Totilla, karamkanda, Nepal; Kering, Garo; Cherpong Mechi; Sosong, Rajbanshi; Pomponia, phun phuna, Uriya; Pana, vanga, achi, Tam.; Pamania, pampana, dundillam, dondlup, Tel.; Dhatte, Gond; Teta, Mar.; Totilla, Cingh; Kyoungyabeng, Burm.; Baladah, And.	
A small tree on the outer Himalaya, ascending to 3,500 feet, and extending from the Jumna eastward to Bengal, Burma, Central and South India, and the Andaman Islands. Wood yellowish-white, soft; no heartwood. Weight 30 lbs. per cubic	
P 111. Sutlej Valley	
OSBECKIA.	
Osbeckia crinita, Benth., Melastomace E. Syn.—O. Stellata, Don.	753
Vern.—Number, LEPCHA.	
A shrub of the Eastern Himalaya and Khásia Hills from 4,000 to 8,000 feet: common about Darjeeling. Wood light-bross, moderately hard.	
E 3310. Dirjeeling, 6,500 feet.	
OSMANTHUS.	
Osmanthus, nov. sp., Obacem.	754
Vern.—Silingi, Nepal; Chashing, Bhutia.	754
A small tree, with opposite coriaceous leaves, found at Tongio, Dar- jeeling, 10,000 feet.	
Wood white, hard, close-grained, seasons well, mottled on vertical sections. Weight 53 lbs.per cubic foot.	•
E 379. Tonglo, Darjeeling, 10,000 feet 53	•
181	

OXYTEN-	
ANTHERA.	OSTODES.
America.	•
755	Ostodes paniculata, βl ., Euphorbiace Vern.—Bepari, Nepal.; Palok, Lepcha.
	A large-evergreen tree of Sikkim and the Khásia Hills.
	Wood white, soft Weight 26 lbs. per cubic foot. E 3110. Darjeeling, 6,000 feet 26
	a garjeening, 0,000 leet
	OUGEINIA.
756	Ougeinia dalbergioides, Benth., Leguminosæ.
, .	Syn.—Dalbergia Oojeinensis, Roxb. (Fl. Ind., iii, 220.)
	• Vern.—Sándan, asainda, tinnas, timsa, HIND.; Shánjan, pánan, OUDH.; Sandan pipli, NEPAL; Bandhona, URIVA; Kala palás, tewas, MAR.; Sér, shermana, tinsai, GOND.; Dargu, tella motku, Tell.; Kari mutal, KAN.; Tewsa, BHIL.; Ruta, KOL.; Rutok, KURKU; Tunnia, BANSWARA, Telus, KHANDEISH.
	A moderate sized deciduous tree, under certain circumstances gregarious, found chiefly in the intermediate zone, sub-Himalayan tract from the Sutlej to the Tista ascending to 5,000 feet, in Central India and the Western Coast.
	Sapwood small; heartwood mottled, light-brown, sometimes reddish- brown, hard, close-grained; is tough and durable, and takes a beautiful polish. Weight 55 to 60 lbs per cubic foot.
	It is used for agricultural implements, carriage poles, wheels and fur- niture; also for building. A crystalline substance, probably magnesia, is sometimes found in the wood. (See specimen E 601.)
	P 102. Sutlej Valley, Punjab
	O 212. Garhwal (1868)
	C 1152. Ahiri Reserve, Central Provinces 54
	C 1242. Gumsúr, Madras 52
	E 601. Lohagarhi, Darjeeling Terai 67
	W 1226, North Kanara
	C 3681. Palamow, Chota Nagpore (1882), . * 56
	• OXYTENANTHERA.
757	Oxytenanthera albo-ciliata, Munro (129.) Syn.—Gigantochloa albo-ciliata, Kurs (ii. 55.) Vern.—Wa-pyoo-galay, Burm. A bamboo of Burma with stems 20 to 30 feet in height.
758	O. monostigma, Beddome (ccxxxiii.) A bamboo met with in the Anamalai Hills of South India.
759	O. nigro-ciliata, Munro (128.) Syn.—Bambusa gracilis, Wall. Vern.— A bamboo of the Western Ghâts, Chittagong, Burma, and the Anda-
	mans.
	102

	PARKIA.
Oxytenanthera Stocksii, Munro (130); Beddome (ccxxxiii.) A bamboo found in the Konkan.	760 ·
O. Thwastesii, Munro (129.) Vern.—Watte, Anamalais. A bamboo of the Western Ghâts with stems 10 to 12 feet high and 1 inch in diameter.	76 1
Pajanelia,	
Pajanelia multijuga, DC., BIGNONIACEE. • Vern.—Kyoungdouk, kingalun, BURM.; Kaukonda, AND. A large evergreen tree of Burma and Andaman Islands. Wood orange-brown, very hard, close-grained. Weight 52 lbs. per cubic foot.	762 .
Used for canoes by the Andamanese. A fine wood. B 503. Andaman Islands 52	
PANDANUS. Pandanus furcatus, Roxb., Pandaneæ. Vern.— Farika, Nepal ; Bor, Lepcha ; Ckai-yega, Cingh. A palm-like tree of Northern and Eastern Bengal, Burma, and the	763
Western Coast. Stems grey, with a distinct bark, wood resembling that of palms. Outer wood moderately hard, containing satiny vascular bundles: inner wood soft, spongy. Ibs.	•
E 473. Darjeeling Hills	
PARAMIGNYA.	
Paramignya monophylla, Wight, RUTACEE. Vern Natkanba, Nepal; Jhunok, Lepcha. An erect or climbing shrub extending from Sikkim down to Tenasserim. Wood white, kard, close-grained. E. 3295. Sabukkola, Darjeeling, 4,000 feet.	764
PARKIA.	
Parkia Roxburghii, G. Don., LEGUMINOSÆ. • Syn.—Mimosa Biglobosa, Roxb. (Fl. Ind. ii., 551.) Vern.—Sapota, Sylhet. A tree of Assam, Eastern Bengal, Chittagong, and Burma. Wood grey. O 3264. Saharunpur.	765
183	•

PENTACE.	•
•	· PARROTIA.
766	Parrotia Jacquemontiana, Decaisne, HAMAMELIDEE. Vern.—Páser, peshbra, po, kilár, kirru, PB. A large deciduous shrub or small tree of the North-West Himalaya from the Indus to the Ravi, between 2,800 and 8,500 feet. Wood light pinkish-red, hard, heavy, very close-grained. Weight 56 lbs. per cubic feot. Wood highly esteemed for walking-sticks, tent pegs, charpoys, and rice pestles, also for native bows for throwing pellets. But its chief use is in basket-work and in the making of bridges over the Himalayan rivers. The twigs are very tough and flexible, and are twisted together into thick ropes, often 300 feet long. The bridges consist of one large rope to walk on and two smaller side ropes, one for each hand, with smaller ropes connecting the hand ropes with the foot rope.
	H 933. Hazara, Punjab, 6,000 feet
767	Pavetta tomentosa, Smith, Rubiace E. Syn.—Ixora Tomentosa, Roxb. (Fl. Ind., i, 386.) Veta.—Padera, Kumaun; Yai, Beng.; Sikriba, sikérup, Kol.; Burhi, Kharwar; Sundók, Lepcha; Papiri, papatta, nam-papúta, Tel. A large shrub of the sub-Himalayan tract from the Ganges east-
•	wards, ascending to 4,000 feet, Bengal, South India, and Burma. Wood light brown, hard, close-grained. Weight 59 lbs. O 3086. Gonda, Oudh 59 PAYENA.
768	Payena lucida, DC., Sapotacez.

Syn.—CERATOPHORUS WIGHTII, Hassk.; ISONAYDRA POLYANDRA, Wight. (Icon. t., 1589.)

Vern.-Dolu-kurta, CACHAR.

An evergreen tree met with in Cachar and Tenasserim (?). Wood red, hard. Weight 45 lbs. per cubic foot.

The wood is used for planking.

PENTACE.

Pentace burmanica, Kurz., TILIACEE.

E 1275. Cachar .

Vern. - Thitka, kathitka, BURM.

A very large, tall tree of Burma. Wood yellowish-red, shining, soft, even-grained, takes a good polish. Weight 42 lbs. on an average.

	Timbers.	•	PART VI
•		•	PHILADE
for which a light we ported, and though now well known, ev	y used in Burma for boats, box bod is required. Large quant a few years ago the wood was en in European markets. It is it to Assam to make tea boxes.	tities are annually of quite unknown, it is also cut up into the	ev_
B 281. Bur B 802. Tha B 815. Ran B 1386. Mon B 3119. Bur B 2915. Bur	ma (1867)	1bs 42 . 41 43 41 42	
	PENTAPYXIS.		
Syn.—Lonicer. 165.) Vern.—Berikur A large shrub m feet, very common o Wood white, sof	et with in the Sikkim Himalay on hill-sides, cleared of forest, a	<i>Journ. Linn. Soc.</i> 10	
	PERSEA.	•	
Persea Nan-muh, THE NAN-M Vern.—			771
when fresh cut; ev beautiful lustre. V	to moderately hard, with a ple en-grained, of an olive-brown Veight 34 to 35 lbs. per cubic fo used in China by persons of we	colour, shining with ot.	ha
B 2705 (marke	ed Laurus Kyaisai) 53 lbs. is	probably a species	-4
Persea.	ve-brown like the Nan-muh	•	1
	PHILADELPHUS.		
Vern.—Dalunch A shrub met with 6,000 to 10,000 feet.	narius, Linn., SAXIFRAGEÆ. si, bhoj, SIMLA. h in the Himalaya, from Kishtw Often planted for ornament. s, with large pith.	• var to Sijkkim, from 	772 m

H 3038. Nagkanda, Simla, 7,000 feet

ı 85

PHŒNIX.	•
	· PHLOGACANTHUS.
773	Phlogacanthus thyrsifiorus, Nees., Acamthacee. Vern.—Sua, shechin, Nepal; Sumcher, Lepcha; Bashkah, Mechi. A large evergreen shrub found in the sub-Himalayan tract from Kumaun & Assam, Khásia Hills and Burma. Often cultivated, as it is a very handsome shrub with long spikes of flame-coloured flowers. Wood white, moderately hard, close-grained. Weight 37 lbs. per cubic foot. Bamunpokri, Darjeeling Terai 37
•	PHŒBE.
774	Phæbe attenuata, Necs., LAURACEÆ. Vern.—Dudri, NEPAL; Lepchaphal, DARJEBLING; Phani, LEPCHA. A large evergreen tree of Sikkim and Bhutan, from 4,000 to 8,000 feet, hills of Eastern Bengal. Wood grey, turning darker on exposure, hard, even-grained. Weight 39 to 44 lbs. per cubic foot. Much used at Darjeeling för building, for tea-boxes, and other purposes. E 363. Rangbúl, Darjeeling, 7,000 feet
775	P. lanceolata, Necs. Syn.—Laurus lancfolaria, Roxb. (Fl. Ind., ii, 309.) Vern.—Chan. chandra, badror, shalanghi, Ph.; Haulia, dandorla, kúwal sún kawal, bilphari, Hind.; Dupatti, Mechi; Nuni ajhar, Garo; Sun kanwál, Kumaun. A small evergreen tree found in the outer Himalaya from the Jumna to Bhutan, ascending to 6,000 feet, Khásia Hills, Sylhet, Burma, and the mountains of South India. Wood white, hard, close-grained; it turns brown on exposure, and varies in colour in different localities. Weight 46 to 55 lbs. per cubic foot lbs. H 91. Bhajji, Simla, 4,000 feet
	, PHŒNIX.
776	Phoenix paludoşa, Roxb., Palmæ. Vern.—Hintal, hital, golpatta, Beng.; Thinboung, Burm. A soholiferous, often gregarious, palm of the Sunderbans, Burma, and Andaman Islands. Its leaves are used in the Sunderbans to make rough ropes for tying boats and logs; and for thatching.
777	P. sylvestris, Roxb. THE WILD DATE PALM. Vern.—Khajúr, khaji, salma, thalma, thakil, HIND.; Pedda eita, TEL. Peria-eetcham, TAM., Ichal, kullu, KAN.; Seindi, BERAR; Boschand MAR.; Sindi, GOND. A tree 30 to 40 feet high, wild and cultivated throughout India.

Timbers. · · · · [Part VII.
Wood light brown, the outer portion hard and durable. Weight 40 to 45 lbs. per cubic foot. The wood is sometimes used for building, water tubes, and other purposes. E 416. Sundarbans P 887. Multan	PHYLLAN- THUS.
PHYLLANTHUS. •	
Phyllanthus bicolor, MüllArg., EUPHORDIACEE. Vern.—Latikat, lakrikat, NEPAL; Kair, tetrikair, LEPCHA. An evergreen tree of Nepal, Sikkin, and Khásia Hills, ascending to 7,000 feet. Wood red or reddish-grey, hard. Weight 37 to 47 lbs. per cubic foot. E 685. Sepoydura forest, Darjeeling, 5,500 feet . 37 E 2433. Tukdah Forest, Darjeeling, 6,000 feet . 47 P. Emblica, Linn. Syn.—Emblica officinalis, Gairth; Cicca Emblica, Kurs (ii, 352.) Vern.—Ambal, ambli, PB.; Daula, amla, aonla, amlaka, aura, aola, auras, HINN. Avala, NEBAL. Sugar, LEPCHAR, Amla, aura, and	778
aunra, HIND.; Ainla, NEPAI.; Suom, LEPCHA, Amla, ambolati, amulati, BING.; Ambari, GARC; Amluki, ASS. Alá thanda, CUILACK; Nilli, milli, nalli, aunri, usir, lalla, GOND; Meral, Kól.; Aunre, KURKU; Nelli, nellekai, TAM.; Osirka, usir, asereki, TFL.; Nelli, nilka, KAN.; Ohalu, gondhona, URIVA; Aonli, MAR.; Nelli, CINGH.; Shabju, tasha, BURM.; Anvalu, BOM. A moderate sized deciduous tree met will in the dry forests of India and Burma. Wood ied, hard, close-grained, warps and splits in seasoning. No heartwood. The wood is durable under water, and is used for well-work; also for agricultuial implements, building, and furniture. It is also burned as fire-wood and makes good charcoal; chips of the wood are said to clear muddy water.	•
P 104. Bhajji, Simla, 3,000 feet 56	780
• Syn.—Glochidion Lanceolarium, Dals.; Bradleia Lanceolaria, (Roxb., Fl. Ind. iii. 697.) Vern.—Anguti, bhauri, Beng., Marang mala, Kol.; Kalchua, Uriya; Bangikar, Nepal.; Fagiri, Lepcha; Tsekoban, Magh; Bhoma, Bom. A small tree of the sub-Himalayan tract, from Kumaun eastwards, Eastern Bengal, South India, and Burma.	•

RT VII. 1 ·· Economic Products of India. PIERIS. Wood reddish-brown, moderately hard, durable. Weight about 56 lbs. per cubic foot. lbs. C 3485. Kolhán Forests, Singbhúm, Chota Nagpore. C 3501. Khurdha Forests, Orissa . Č 3553. **781** Phyllanthus reticulatus, Poiret. Syn.-P. MULTIFLORUS, Roxb. (Fl. Ind. iii. 664); CICCA RETICULATA, Kurs. (ii, 354.) Vern.—Panjúle, mákhi, HIND.; Nella púrúdúdú, phulsar, TEL.; Welkyla, A straggling shrub, common in most parts of India and Burma, especially along river banks. Wood white or greyish-white, hard, close-grained. E 3362. Dhupguri, W. Dúars. P. Thomsoni, Müll.-Arg. 782 Vern.-Latikat, NEPAL. A small tree of Sikkim and the Khásia Hills. Wood red, structure the same as that of P. Emblica. Weight 42 lbs. per cubic foot. lbs. E 2434. Bamunpokri, Darjeeling Terai PHYLLOSTACHYS. 783 Phyllostachys bambusoides, Sieb. & Zucc., GRAMINE E. A bamboo, met with in the Mishmi Hills. ¢ (Specimens wanted.) PICRASMA.

784

Picrasma javanica, Bl., Simarubeæ.

Vern .- Thityooben, BURM.

A moderate sized evergreen tree of Malacca, and according to Kurz frequent in the tropical forests from Martaball down to Tenasserim and the Andamans; and in those of the Pegu Yoma.

Wood yellowish-white, soft, perishable. Weight 27 lbs. per cubic foot.

56

lbs. B 1977. Andamans (1866) 27

PIERIS.

785

Pieris ovalifolia, Don., ERICACEE.

Syn.—Andromeda Ovalifolia, Wall. Vern. — Ayatta, eilan, ellal, arur, arwán, aira, rattankat, erana, yarta, Pf.; Ayár, Hind.; Anjir, angiar, aigiri, jagguchal, Nefal; Piasay, Bhutia; Kangshior, Lepcha.

A small deciduous tree found in the outer Himalaya from the Indus to Assam, usually between 4,000 and 8,000 feet, the Khasia Hills and Hills of Martaban from 5,000 to 7,000 feet.

Timbers [PART V
•	PINUS
Wood light reddish-brown, moderately hard, not durable, warps and shrinks very badly in season ag. Weight 41 lbs. per cubic foot. It is only used for fuel a charcoal.	
H 17. Simla, 7,000 feet . •	•
. PINUS.	
Pinus excelsa, Wall., Conifera.	786
Vern.—Piuni, Afg.; Biár, HAZARA.; Chil, chír, chíltu, chítu, chiú, KASH- MIR to JAUNSAR; Chila, GARHWAL.; Kail, BEAS, SUTLEJ; Lim, CHAM- BA, KUNAWAR; Yara, yúr, yiro, KASHMIR; Shomshing, limshing, LA- HOUL; Raisalla, lamshing, byans, KUMAUN; Tongschí, BHUTAN.	700
A large gregarious tree, generally of the Himalaya, between 6,000 and 10,000 feet, from the Indus to Bhutan, extending into the inner arid tract. Heartwood distinct, red, moderately hard. It is very resinous and	•
more durable than that of P. longifolia, but less so than Dodar. Weight from 26 to 33 lbs., average 30 lbs., per cubic foot. In this respect it ranks next to Deodar, and is preferred to that of Chil or the Firs. It is used for house-building, shingles, water channels, wooden spades and other implements; also for torches, and from it turpentine is prepared it gives an excellent charcoal for iron smelting.	
lbs. H 923. Hazara (7,000 feet)	
Н 901. " ""	
H 140. Lahoul (about 10,000 feet) . '	
H 37. Mashobra, Simla, 7,000 feet 33	
H 2871. Nagkanda, " 8,000 " H 1403a ()	
H 1403b \ Punjab Hills, \ \ \ \ \ 32	•
H 1404. (Dr. Stewart, 1867)	
H 1407. C	!
P. Gerardiana, Wall.	n0=
The Edible Pine.	787
Vern.—Chilghosa, jalghosa, Afg.; Chiri, prita, mirri, galboja, galgoja, Chenab.; Kashti, Ravi.; Ri, rhi, Kunawar; Kannuchi, koniúnchi, kaninachi, shangti, W. Tibet. The seeds, neosa.	
A moderate sized tree of the inner dry and arid North-West Himalaya, found in isolated areas of no great extent, generally between 6,000 and 10,000 feet, mountains of North Afghanistan and Kafiristan. Heartwood yellowish-brown, hard, durable, very resinous. Weight 44 to 47 lbs. per cubic foot.	:
The wood is rarely used, as the tree is valued for its edible seeds; it is, however, sometimes hollowed out for water-courses, and is used for the hook which attaches the seat to the rope in a single-rope swing-bridge.	
H 991. Kunawar, Punjab, 9,000 feet 44 H 1405. Chenab, ,, ,, (Stewart, 1867.) 47	

P. kasya, Royle.

A large evergreen tree, often gregarious, met with in the Khásia Hills above 2,000 feet, higher hills of Chittagong and mountains between the Sittang and the Salween rivers in Burma above 3,000 feet.

ART VII.] Economic Products of India.
PIPTADE- NIA.	Wood very resinous, heartwood red. Weight 38 lbs. per cubic foot. It is extensively used in the Khásia Hills for building and other purposes. E 797. Khásia Hills
789	Pinus longifolia, Roxa. The Long-Leaved Pine.
	Vern.—Nakhtar, Afg.; Chil, chir dráb, chir, Pb.; Gúla, thansa, Kangra; Anander, Jhelam; Saral, Jaunsar; Chir, salla, sapin, kolon, kolans kolain, Garhwal and Kumaun.; Dhúp, Oudh; Dhúp, sala dhúp, sula, Nepal; Gniet, Lepcha; Teadong, Bhutia. A large gregarious tree of the outer and drier Himalayan slopes, met with as low down as 2,000 feet and ascending to 7,500 feet. From Afghanistan eastward to Silkim and Bhutan. Heartwood small, soft, reddish, not durable; it is attacked by insects and decays rapidly when exposed to wet; it is, however, easy to work. Weight 30 to 40 lbs. on an average for seasoned wood. Extensively used in some localities in the hills for building, shingles, tea boxes, and the bottoms of boats. It gives large quantities of resin, more than any of the other Himalayan Pines, but the process is exhaustive. Brandis says: "The yield of an ordinary tree is 10 to 20 lbs. of resin the first, and about one-third of the quantity the second year, after which the tree either dies or is blown down." The bark is used as fuel for iron smelting. The wood is often made into charcoal. Chir requiremental light, and seedlings do not spring up under shade, but the natural reproduction is good, and skould present no difficulty if fire ar "cattle are excluded from the cuttings."
· .	H 602. Tuttul Forest, Kangra
79 0	E 2436. Darjeeling, 7,000 feet (planted). P. Merkusii, Jungh. Vern.—Tinyu-ben, Burm. A large tree met with in the tropical forests of Burma on the Thoungyeen river, associated with Dipterocarpus tuberculatus. Heartwood yellowish-brown with dark streaks, moderately hard, exceedingly resinous. Structure similar to that of P. Kasya. Weight 51 lbs. per cubic foot. The wood is sometimes brought to Moulmein for mast pieces, but the difficulties of land and water transport are very great, almost preventing
	its extraction at a profit.

PIPTADENIA.

. 51

Piptadenia oudhensis, Brandis, Leguminos E. Vern.—Gainti, Oudh.

547. Thongyeen, Burma

A moderate sized tree met with in the forests at the foot of the Nepal Hills, Gonda Division, Oudh. Wood yellowish or reddish, close-grained, no heartwood, hard, durable.

O 3084. Gonda, Oudh.

	PITHEC
DIDMASIMITA	LOBIU
PIPTANTHUS.	
Piptanthus nepalensis, D Don., Leguminosz. Vefn.—Bankaru, Sutlej, Shalgari, Kumaun. A shrub of the Himalaya from the Sutlej to Bhutan above 7,000 feet. Has handsome, large, yellow flowers, and is sometimes planted for ornament in the hills and in Europe. Wood white with an irregular grey heartwood.	792
H 3024. Nagkanda, Simla, 9,000 feet 40 E 3405. Sandukpho, Darjeeling, 11,000 feet.	
PISTACIA. •	•
Pistacia integerrima, J. L. Stewart, ANACARDIACEE Vern.—Kaka, kakkar, kakrangche, kakring, kaigar, tungu, PB.; Kaksrsing, kumaun, Shué, sarawan, masua, Afg A arge deciduous trice, met with on the Sulaiman and Salt Ranges, the outer North-Western Himalaya, extending eastward to Kumaun, altitude 6,500 feet. Wood haid, close and even-grained, brown, beautifully mottled with yellow and dark veins, and take a fine polish. The sapwood is liable to be attacked by insects, but the heartwood is durable highly prized, and consequently often cut recklessly. Weight 54 lbs. per whice foot. The heartwood of mature trees is the best and most had some wood of the North-West Himalaya for carving furniture and all kinds expanded to the North-West Himalaya for carving furniture and all kinds expanded to the North-West Himalaya for carving furniture and all kinds expanded to the North-West Himalaya for carving furniture and all kinds expanded to the North-West Himalaya for carving furniture and all kinds expanded to the North-West Himalaya for carving furniture and all kinds expanded to the North-West Himalaya for carving furniture and all kinds expanded to the North-West Himalaya for carving furniture and all kinds expanded to the North-West Himalaya for carving furniture and all kinds expanded to the North-West Himalaya for carving furniture and all kinds expanded to the North-West Himalaya for carving furniture and all kinds expanded to the North-West Himalaya for carving furniture and all kinds expanded to the North-West Himalaya for carving furniture and all kinds expanded to the North-West Himalaya for carving furniture and all kinds expanded to the North-West Himalaya for carving furniture and all kinds expanded to the North-West Himalaya for carving furniture and all kinds expanded to the North-West Himalaya for carving furniture and all kinds expanded to the North-West Himalaya for carving furniture and all kinds expanded to the North-West Himalaya for carving furniture and all kinds expanded to the North-West Himalay	
22 255. 2	
PITHECOLOBIUM.	_
Pithecolobium duice, Bth, Leguminos. Syn.—Inga duicis, Willd, Mimosa duicis, Roxb (Fl Ind., 11, 556) Vern.—Dakhani babul, Hind, Karkapilly, Tam, Sime hunase, Kan., Kway tanyeng Burm A tree introduced from Mexico, and commonly cultivated in India and Burma He irtwood red or reddish-brown, sapwood white. Weight 40 lbs. per cubic foot The tree coppices well, and is used as a hedge plant and for fuel. O 3656. Saharanpur.	
P. Saman, Benth.	795
THE UANGO OF RAINTREE. Syn.—NIGA SAMAN, Willd A small low-branching tree introduced from Jamaica, extensively cultivated in Calcutta as an ornamental tree of rap d growth.	

ECOS- *	• • • • • • • • • • • • • • • • • • • •
um v m.	Sapwood white, heartwood brown, seft, perishable, and to judge by our specimen by no means so good as it has been reported to be. Weight a6 lbs. per cubic foot.
••	E 3711. R. B. Gardens, Calcutta 26
	PLANCHONIA.
mak	
796	Planchonia littopalis, Van Houtte, Myrtacek. Syn.—P. valida, Blume (Kurs, i, 500). Vern.—Bamwbay nee, Burm.; Baila dá, And.
	A moderate sized evergreen tree, frequent in the evergreen coast forests of the Andaman Islands. A valuable wood, which should be better known; it seasons well and takes a fine polish; it is reddish-brown, with yellow specks, very hard,
•	close-grained. Weight about 60 lbs. per cubic foot.
	B 514. Andaman Islands 64
	David (Home von No W Vougueus) 6"
	B 2495. ,, ,, (Home 10/4, No. 7, Tourygyee) of
	PLATANUS.
797	Platanus ofientalis, Linn., Platanez.
• • • •	THE ORIENTAL PLANE TREE.
	Vern.—Chinár, Pers., Afg.; Buin, buna, boin, Kashmir.
•	A large deciduous tree, cultivated in the North-West Himalaya east to the Sutlej, ascending to 8,300 feet in Ladak. Indigenous in Greece, Macedonia, Armenia and Northern Persia.
	Wood white, hard, with a faint tinge of yellow or red. Weight about
	It is used in Kashmir for boxes, trays, pen-cases, and other articles, which are lacquered and painted. It has a pretty grain and may be recommended for cabinet-work.
	lbs.
	Н 922. Наzага 41
	*
	PLECOSPERMUM.
798	Plecospermum spinosum, Trecul, URTICACEE.
790	Vern.—Mainakat-lara, maidal-lara, NEPAL; Gumbengfong, MECHI; Koriti. Tel.
	A large thorny shrub, met with on the Salt Range, in Rohilkhand, Nepal, Sikkim, South India, and Ceylon.
	Wood greyish-white, with a small bright orange-yellow heartwood, which is very hard. In the heartwood the pores are filled with a yellow resinous substance. Weight about 50 lbs. per cubic foot.
	It is used in the Darjeeling Terai to give a yellow dye.
	lbs.
	O 3134. Dehra Dun
_	E 487. Khookloong Forest, Darjeeling Terai . 45
•	E 2308. Darjeeling Terai
•	E 2448. Tukdah Forest, Darjeeling, 5,000 feet . 47

Timbers.	[PART VII,
	PODOCAR- PUS.
PLECTOCOMIA.	
Plectocomia assamica, Griff., PALME.	799 :
A cane, met with in Upper Assam. It resembles P. Khasyana, and T. Anderson joins them both in one species. (Specimens wanted)	
P. himalayana, Griff.	800
Vern.—Takri bet, NEPAL; Runool, LEPCHA. A cane met with in the Sikkim Hills at 4,000 to 7,000 feet altitude. (Specimens wanted.)	
P. Khasyana, Griff. A cane of the Khásia Hills.	801
(Specimens wanted.) P. macrostachya, Kurz. A canc met with in the Tenasserim Hills. (Specimens wanted.)	802
PLECTRANTHUS.	
Plectranthus rugosus, Wall., VERBENACEE. Vern.—Khwangere, Trans-Indus; Itsit, Salt Range; Búi, Jhelam Solei, Kashmir; Piumar, chúgu, Chenab; Kot, siringri, Ravi; Pek, rosbang, chichri, Sutlej. A small shrub, common on dry hill-sides and rocks in the North-West Himalaya and Salt Range above 3,000 feet. Wood grey, hard.	803
H 2840. Simla, 7,000 feet.	
PLECTRONIA. Plectronia didyma, & Hook. f., Rubiace E. Syn.—Canthium didymum, Gaertn, (Roxb. Fl. Ind., i, 535.) Vern.—For, Kol.; Tolan, Uriya; Neckanie, nalla balsu, Tam., Tel.; Abalu, Kan.; Arsúl, Bom.; Poruwa, Cingh. A large shrub of South India, Ceylon, and Tenasserim. Wood light brown, hard. Weight 57 lbs. per cubic foot.	804
Used for agricultural purposes. No. 16. Salem Collection	
PODOCARPUS.	
Podocarpus bracteata, Bl., Conifere. Syn.—Nagela bracteata, Kurs. Vern.—Ginari, Cachar; Thitmin (Prince of Woods), Burm.; Welimada, And.	805
A large evergreen tree of the Khásia Hills, Burma, and the Andaman Islands.	
N 103	

N

POLYAL-THIA.

Wood grey, moderately hard, of very uniform grain and texture throughout. Weight about 40 lbs. per cubic foot.

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The wood is used for oars, masts of boats, and for planking. It is greatly esteemed by the Burmese. Dr. Mason says: "It is used by carpenters for various purposes, and the Burmese have a superstition that the beams of balances should be made of it." Major Berdmore says it is used to avert evil by driving a peg of it into a house-post or boat.

E 1277.		.: .	•					1bs. 38
B 508.	Andaman	Islands	•	,	•		•	37
B 2265.	99	,,	(Major					39
B 2556.	••	••	(Home.	1874.	No.	10)		ΔI

806 Podocarpus latifolia, Wall.

Syn.—Nageia Latifolia, Kurs.

Vern .- Soplong, KHASIA; Nirambali, TINNEVELLY; Thitmin, BURM.

A large evergreen tree, with grey aromatic wood, and structure similar to that of **P. bracteata**. Tropical forests of Martaban and Tenasserim Hills; Hills of Tinnevelly, at 3,000 to 5,000 feet (*Beddome*); Khásia Hills and Eastern Bengal (*Parlatore*).

Weight about 33 lbs.

The wood is used for similar purposes to that of P. bracteata-

POINCIANA.

807

Poinciana elata, Linn., LEGUMINOSE.

Vern .- Padenarayan, TAM.; Sunkeswar, Tel.; Nirangi, KAN.

A moderate-sized tree sound in the forests of South India and the Western Peninsula, planted elsewhere. An ornamental tree frequently planted.

According to Skinner it has wood of a yellow colour, tolerably close and even-grained, easy to work and giving a smooth surface; warping slightly but not subject to crack. Weight 45 lbs. per cubic foot.

Well suited for cabinet work.

(Specimens wanted.)

808

P. regia, Bojer.

THE MASCARENE.

Vern.

A moderate sized tree, native of Madagascar, introduced into India within the last 70 years and now found planted almost all over India; plentiful in Calcutta in gardens and on road-sides.

Kurz says the wood is white, soft, light, and loose-grained.

(Specimens wanted).

POLYALTHIA.

800

Polyalthia cerasoides, Benth. & Hook. f. Anonoce.

Syn.--Uvaria cerasoides, (Roxb., Fl. Ind., ii, 666).

Vern. - Hoom, MAR.; Chilka dúdúgú, TEL.; Nakulsi, múlili, TAM.

A large evergreen tree found in Behar, Eastern and Western Ghâts, Dekkan, Burma.

	`
Timbers.	[PART VII.
•	POMETIA.
Wood olive-grey, moderately hard, close-grained. Weight 52 lbs. per cubic foot.	
The wood is used for carpentry and in boat-building. It is much prized in Bombay? C 997. Poona	
Polyalthia longifolia, Bth. & Hook. f. The Indian Fir of Mast tree.	810
Syn.—Guatteria longifolia, Wall; Uvaria longifolia, Lam. (Roxb.,	
Fl. Ind., ii, 664). Vern.—Asok, debdari, HIND.; Assothi, TAM.; Asoka, devadaru, TEL.; Debdaru, URIYA.	
A large, erect, evergreen glabrous tree inhabiting the drier parts of Ceylon; cultivated throughout the hotter parts of India. It is commonly planted in avenues along roads in Bengal and South India. Wood white, fairly close and even-grained, rather soft. Weight about	
*40 lbs. per cubic foot. Roxburgh says it is deemed of little use. It might be found suitable for tea boxes, as also the wood of P. simiarum, Bth. & Hook., a large tree of Eastern Bengal and Burma, and P. Jenkinsii, Bth. & Hook f., which is found in Assam and Sylhet.	
P. suberosa, Bth. & Hook. f. Syn.—Uvaria suberosa, Roxb. (Fl. Ind., ii, 667). Vern.—Barachali, Beng.; Banderhola, Ass.; Chilka dulling, Teir. A small tree of Oudh, Bengal, and South India. Wood close, tough, durable, resembling that of P. cerasoides. Vi ht 40 to 45 lbs. per cubic foot. C 3483. Kolhán Forests, Singbhúm, Chota Nagpore.	811
POLYGONUM.	•
Polygonum molle, Don., Polygonez.	
Vern.—Totnye, tuknu, patu-swa, NEPAL. An extremely common, often almost gregarious, and scandent or straggling shrub, found on the hills of Sikkim and Bhutan from 5,000 to 8,000 feet. There is some doubt about the name of this very common plant, but it is probably Coccoloba Totnea, Ham., in Don. Prodr. Fl. Nep. 74. It has the enlarged succulent calyx of Coccoloba round the fruit.	812
Wood reddish-white. Stems hollow. E 2412. Rangbi, Darjeeling, 5,000 feet.	
· POMETIA. ·	
Pometia tomentosa, Bth. & Hook. f., SAPINDACEE. Syn.—Pometia eximia, Beddome (t. 157.) Vern.—Thabyay, Burm.; Badoh, And. A large tree of the Eastern Peninsula, very common in the tropical forests of the Andamans; found in Malacca and the central province	813
of Ceylon. Heartwood red, coarse-grained. Weight 48 lbs. per cubic feot. The Flora of British India states that the timber is useful. lbs.	1
B 1973. Andamans (1866) 48	
N I 195 .	

POPULUS:

PON	GAMIA.
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	. PONGAMIA,
814	Pongamia glabra, Vent., Leguminosa.
-	Syn.—GALEDUPA INDICA. Lam. (Roxh. Fl. Ind. iii 220)
	Vern.—Karanj, papar, Hind.; Dalkaramcha, karanja, Beng.; Koranju, Uglya; Ponga, Tam.; Kanga, pungu, kaniga, ganuga, Tel.; Garanji, Gond.; Charr, Ajmere; Khawári, karmuj, Sirguja; Húngay, pong, Kan.; Thinwin, Burm.
•	A moderate sized tree, almost evergreen. Grows in the sub-Hima- layan tract from the Ravi eastwards, ascending to 2,000 feet; Bengal, Burma, Central and South India. The tree is easily grown from cut- tings.
r	Wood moderately hard, white, turning yellow on exposure. It is not durable, and is readily eaten by insects, but is improved by seasoning in water. Weight about 40 lbs. per cubic foot. In Lower Bengal it is used for oil-mills and firewood; in South India
	for solid cart-wheels, P 457. Ajmere C 1133. Ahiri Reserve, Central Provinces E 411. Sundarbans
	POPULUS,
815	Pr. L's balsamifera, Linn., Salicinez.
	Vern Phalsh, makkal, pakhshu, pakh, bút, kramal, PB.; Berfa, changma.
••	f yarpa, magkal, mahal, W. IIBET.
•	A large tree of the inner arid Himalaya and Tibet, 8,000 to 14,000 feet. The leaves and the branches are full of balsamic juice, which also exudes from fresh cuts between the bark and the wood. (Gamble.) Wood light grey, soft to moderately hard. Weight 32 lbs. per cubic
	foot. The wood is grown for fuel in the inner arid Himalaya.
	H 136. Lahoul, about 9,000 feet . " 32
•	H 138. Lahoul about 9,000 feet resembles the above, but is of very fast growth.
816	P. ciliata, Wall.
	Vetn.—Safeda, bagnu, phalja, phlassu, falis, paluch, phalsh, ban phrastu, dud phras, asán, suáli, rikkan, saki, pábe, chanún, krammal, pahari pipal, PB.; Chelaun, chelún, SIMLA; Garpipal, KUMAUN; Bangikat, NEPAL; Sungribong, LEPCHA.
	A large deciduous tree of the Himalaya from the Indus to Bhutan
	between 4,000 and 10,000 feet. Wood grey or brownish-grey, shining, soft. Weight, on an average, 29'5 lbs. per cubic foot. The wood is used for water troughs,
	the wood is used for water troughts.
	H 3188. Dungagalli, Hazara H 34. Matiyana, Simla, 7,000 feet
	E 970. Chumbi Valley, Tibet, about 8,000 feet . 27
	196

Timbers.	[Part VII
	PREMNA.
Populus euphratica, Olivier.	817
Vern.—Bahan, Sind, Pb.; Path, Brahui; Hodung, Ladak. A large deciduous tree met with on the banks of the Indus in Sind the Upper Valley of the Indus, and its tributaries in Tibet. Sapwood white, heartwood red, often nearly black near the cen moderately hard, compact, even-grained. It is rather tough, and heartwood is fairly durable. Weight 27 to 37 lbs. The wood is largely used in Sind for building, turnery, lacque boxes, seldom for fuel for the river steamers, as its heating powers not great. On the Euphrates and Tigris it is used for planking a boat-building, and in the Punjab for the lining of wells, In Ladak it much prized for fuel. It coppices well and bears pollarding lo coppice shoots are often used as rafters in Sind. P 883. Multan P 1385. Indus bank, Central Sind 32	tre, the red are and t is
POUZOLZIA,	
Pouzolzia viminea, Wedd., URTICACEE. Vern.—Chhota kúail, NEPAL; Kyinghi, LEPCHA. A shrub or small tree of Kumaun, Nepal, Sikkim, Eastern Ben Assam, and Chittagong, ascending to 5,000 feet. Wood light, reddish-brown, hard, apt to warp. cubic foot. E 2447. Latpanchor, Darjeeling, 4,500 feet 37	1
PREMNA.	
Premna integrifolia, Linn., Verbenacer. Syn.—P. Serratifolia, Linn. (Roxb., Fl. Ind., iii, 77.) Vern.—Bakarcha, Garhwal; Ganniari, Oudh; Bhut-bhiravi, Be Gineri, Nepal; Munnay, Tam.; Ghebu-nelli, pinna-nelli, Tel; mari, Mar; Appel, Mal. A small deciduous tree met with in Oudh, Northern Bengal, S India, Ceylon, Tenasserim, and the Andaman Islands. Wood white with purple streaks, moderately hard, close-grain structure similar to that of P. latifolia, from which it is probably specifically distinct. Weight, 35 lbs. per cubic foot. The wood is used for firewood. O 3082. Gonda, Oudh O 3082. Kheri ""	outh
P. latifolia, Roxb. Vern.—Gineri, Nepal; Michapgong, Lepcha; Dauli, Rajbanshi; Panella-kura, Tel.; Gondhona, Uriya; Middi, Cinch. A small deciduous tree of the sub-Himalayan tract from Kuneastwards, and of South India. Wood grey with yellow, green, and purple streaks. Weight 343 lbs. per cubic foot. Used by the hill tribes of Sikkim to obtain fire by friction, and in Darjeeling Terai for firewood and charcoal. Bs. E 621. Rakti Forest, Darjeeling Terai E 6239. Bamunpokri Box. Lepcha; Dauli, Rajbanshi; Panelling Terai Bs. 38	naun 8 to

PIA. C. 3578 Khurdha Forests, Orissa (Agabathu, Uriya) is a species o Premma, near P. latifolia. 821 Premma longifolia, Roxb. Syn.—P. Tomentosa, Willd. Vern.—Gwyheib, Nepal; Sungma, Lefcha; Dhaoli, Mechi; Gohora, Ass. An evefsyeen tree found in the Eastern sub-Himalayan tract of Bengal and Assam. Wood greyish-brown, hard, close-grained. Weight 47 to 50 lbs. per cubic foot. It is used for house-posts in Assam. E 2400. Sivoke, Darjeeling Terai	-	
Premna longifolia, Roxb. Syn.—P. Tomenrosa, Willd. Vern., -Gwyheli, Nefal; Sungna, Lepcha; Dhaoli, Mechi; Gohora, Ass. An evergenen tree found in the Eastern sub-Himalayan tract of Bengal and Assam. Wood greyish-brown, hard, close-grained. Weight 47 to 50 lbs. per cubic foot. It is used for house-posts in Assam. E 2400. Sivoke, Darjeeling Terai	PRINSE- PlA.	
Syn.—P. Tomentosa, Willd. Vern.—Gwyheli, Neral; Sungna, Lepcha; Dhaoli, Mechi; Gohora, Ass. An evergene tree found in the Eastern sub-Himalayan tract of Bengal and Assam. Wood greyish-brown, hard, close-grained. Weight 47 to 50 lbs. per cubic foot. It is used for house-posts in Assam. E 2400. Sivoke, Darjeeling Terai		C. 3578 Khurdha Forests, Orissa (Agabathu, URIYA) is a species of Premna, near P. latifolia.
E 2400. Sivoke, Darjeeling Terai	821	Syn.—P. Tomentosa, Willd. Vern.,—Gwyheli, Nepal; Sungna, Lepcha; Dhaoli, Mechi; Gohora, Ass. An every een tree found in the Eastern sub-Himalayan tract of Bengal and Assam. Wood greyish brown, hard, close-grained. Weight 47 to 50 lbs. per cubic foot.
E 2400. Sivoke, Darjeeling Terai		It is used for house-posts in Assam.
Vern.—Bankhar, gián, PB.; Bakar, bakarcha, basóta, agnián, tumari jhatela, HIND.; Agniu, KUMAUN. A small tree of the sub-Himalayan tract from the Chenab eastwards. Wood moderately hard, light purple, structure the same as that of P. integrifolia. Wood a good fuel, used to obtain fire by friction. O 3091. Kheri, Oudh. P. tomentos: Willd. The Nagal, naoru, naura, Tel.; Chambara, Mar; Ije, Kan.; Boosairu, Cingh.; Kyunnalin, Burm. A moderate sized deciduous tree of South India and Burma. Wood light-brown, the colour of teak but lighter (hence the Burmese name), moderately hard, smooth, close and even-grained, seasons and polishes well. Weight from 40 to 54, generally about 52 lbs. per cubic foot. It is used for weaving shuttles in Burma. It would do for turning and fancy work. B 317. Burma (1867). B 2718. Tavoy (Wallich, 1828). B 2748. Burma (1862). B 1424. Burma	•	E 2400. Sivoke, Darjeeling Terai 47
Wood moderately hard, light purple, structure the same as that of P. integrifolia. Wood a good fuel, used to obtain fire by friction. O 3091. Kheri, Oudh. P. tomentos: Willd. P. tomentos: Willd. A moderate sized deciduous tree of South India and Burma. Wood light-brown, the colour of teak but lighter (hence the Burmese name), moderately hard, smooth, close and even-grained, seasons and polishes well. Weight from 40 to 54, generally about 52 lbs. per cubic foot. It is used for weaving shuttles in Burma. It would do for turning and fancy work. B 317. Burma (1867). B 2718. Tavoy (Wallich, 1828). B 2548. Burma (1862). B 1424. Burma. (Wood rough, grey, and lighter than the other specimens of P. tomentosa.) PRINSEPIA. Prinsepia utilis, Royle., Rosace. Vern.—Bhekal, bekkra, karanga, cherara, dhatela, jhatela, HIND.; Gurimda, HAZARA; Tatsia, phulwara, RAJAORI; Sinti, CHENAB; Bekling, KANAWAR. A deciduous, thorny shrub, of the outer Himalaya, from Hazara to Bhutan, between 2,000 and 9,000 feet, and Khásia Hills. Sapwood white; heart wood red, very hard and compact, close and even-grained, but much liable to split. Weight 69 lbs. per cubic foot. The wood is mostly used for fuel, and occasionally for walking-sticks. B 49. Nagkanda, Simla, 8,000 feet	822	Vern. – Bankhar, gián, PB.; Bakar, bakarcha, basóta, agniún, tumari jhatela, HIND.; Agniu, KUMAUN.
Amoderate sized deciduous tree of South India and Burma. Wood light-brown, the colour of teak but lighter (hence the Burmese name), moderately hard, smooth, close and even-grained, seasons and polishes well. Weight from 40 to 54, generally about 52 lbs. per cubic foot. It is used for weaving shuttles in Burma. It would do for turning and fancy work. B 317. Burma (1867)		Wood moderately hard, light purple, structure the same as that of P. integrifolia. Wood a good fuel, used to obtain fire by friction.
and fancy work. B 317. Burma (1867)	823	A moderate sized deciduous tree of South India and Burma. Wood light-brown, the colour of teak but lighter (hence the Burmese name), moderately hard, smooth, close and even-grained, seasons and polishes well. Weight from 40 to 54, generally about 52 lbs. per cubic foot.
Prinsepia utilis, Royle., Rosace. Vern.—Bhekal, bekkra, karanga, cherara, dhatela, jhatela, Hind.; Gurinda, Hazara; Tatúa, phulwara, Rajaori; Jinti, Chenab; Bekling, Kanawar. A deciduous, thorny shrub, of the outer Himalaya, from Hazara to Bhutan, between 2,000 and 9,000 feet, and Khásia Hills. Sapwood white; heartwood red, very hard and compact, close and even-grained, but much liable to split. Weight 69 lbs, per cubic foot. The wood is mostly used for fuel, and occasionally for walking-sticks. Ibs. 'H 49. Nagkanda, Simla, 8,000 feet 69 H 2868. " " "		and fancy work. B 317. Burma (1867)
Vern.—Bhekal, bekkra, karanga, cherara, dhatela, jhatela, HIND.; Gurinda, HAZARA; Tatúa, phulwara, RAJAORI; Jinti, CHENAB; Bekling, KANAWAR. A deciduous, thorny shrub, of the outer Himalaya, from Hazara to Bhutan, between 2,000 and 9,000 feet, and Khásia Hills. Sapwood white; heartwood red, very hard and compact, close and even-grained, but much liable to split. Weight 69 lbs. per cubic foot. The wood is mostly used for fuel, and occasionally for walking-sticks. lbs. H 49. Nagkanda, Simla, 8,000 feet 69 H 2868. " " "		PRINSEPIA.
Bhutan, between 2,000 and 9,000 feet, and Khásia Hills. Sapwood white; heartwood red, very hard and compact, close and even-grained, but much liable to split. Weight 69 lbs. per cubic foot. The wood is mostly used for fuel, and occasionally for walking-sticks. Ibs. H 49. Nagkanda, Simla, 8,000 feet 69 H 2868. " " "	824	Vern.—Bhekal, bekkra, karanga, cherara, dhatela, jhatela, HIND.; Gurinda, HAZARA; Tatúa, phulwara, RAJAORI; Jinti, CHENAB; Bekling, KANAWAR.
H 49. Nagkanda, Simla, 8,000 feet 69 H 2868. ", ", ",		Bhutan, between 2,000 and 9,000 feet, and Khásia Hills. Sapwood white; heartwood red, very hard and compact, close and even-grained, but much liable to split. Weight 69 lbs. per cubic foot. The wood is mostly used for fuel, and occasionally for walking-sticks.
· 198	•	H 49. Nagkanda, Simla, 8,000 feet 69
		· 198

PRUNUS. PRIOTROPIS. Priotropis cytisoides, W. & A., LEGUMINOSÆ. 825 Vern.-An erect branching shrub of the Eastern Himalaya and Burma. Wood white. E 3311. Punkabari, Darjeeling, 3,000 feet? PROSOPIS. 826 Prosopis glandulosa, Torr., LEGUMINOSE. THE "MESQUIT OR ALGAROBA OF TERAS." A small tree, native of the mountain regions of Western Texas. Successfully introduced into India by the Department of Agriculture and Commerce of the North-Western Provinces. Wood exceedingly hard and durable, with a beautiful grain. It is used for furniture, picket poles, and charcoal. (Specimens wanted.) P. spicigera, Linn. 827 Syn.—ADENANTHERA ACULEATA, Rokb. (Fl. Ind., ii., 371.)

Vern.—Jhand, khár, PB.; Kandi, kundi, SIND.; Chamkra, AGRA; Khejra, RAJPUTANA; Sangri, PERTABGARH; Semru, hann, GUZ.; Shemi, saunder, MAR.; Shami, BENG.; Somi, MONGHYR; Peram MADURA, URIYA; Perumbe, vunne, jambu, TAM.; Chani, TEL. A moderate sized, deciduous, thorny tree, inhabiting the ad-northern and southern dry zones, Punjab, Sindh, Rajputana, Guzerat, Bundelkhand and Dekkan. It is easily raised from seed and coppies well. It has an enormously long tap root: one specimen, of which pieces were sent to the Paris Exhibition of 1878, had a root 86 feet long, penetrating vertically to a depth of 64 feet. Sapwood large, perishable; heartwood purplish-brown, extremely hard, tough, but not durable, liable to dry rot, and readily eaten by insects. Weight 50 to 60 lbs., generally about 58 lbs. per cubic foot. It is used for building, carts, well curbs, furniture, and agricultural implements; but is chiefly valuable for fuel, as its heating power is very great. Brandis gives the results of experiment made at Karachi in May 1869, that 1,374 lbs. of its wood were consumed in evaporating 118 cubic feet of water per hour during 7 hours, the pressure of steam being kept at 27 lbs. per square inch, while of Acacia arabica wood 1,388 lbs., and of Tamarix gallica wood 1,627 lbs., were required for the same test. It is largely used for fuel for locomotives and steamers in the Punjab and Sind, and has been planted in the Punjab plantations. lhs. 882. Multán . 57 (rootwood) . 939. " (rootwood) . 1380. Carokpo Forest, Hyderabad, Sind 59 459. Ajmere (young tree) . 37

PRUNUS.

Prunus acuminata, Wall., Rosace E.

Vern.-Lali, NEPAL.

A tree of the Eastern Himalaya and Khásia Hills from 4,000 to 7,000 feet.

Part VII.	Economic Products of India.
PRUNUS.	,
	Wood reddish-brown, with pretty wavy lustre on radial section. E 3309. Sureil, Darjeeling, 6,000 feet. E 3422. Rangirum, Darjeeling, 6,500 feet.
829	Prunus armeniaca, Linn.
<u>-</u>	THE APRICOT. Vern Hari, gardalu, jaldaru, shiran, cheroli, cher kush, serkuji, shari. PB.; Iser, Kashmir; Chuari, sardalu, khubani, Hind.; Mishmish, Pers. A moderate sized deciduous tree, cultivated in the North-Western Himalaya. Sapwood white; heartwood greyish-brown, mottled with dark-brown streaks, moderately hard. Weight, 49 lbs. per cubic foot.
	Wood handsome, used for various purposes in the Punjab Hills
•	In Lahoul and Upper Kanawar it is the chief firewood.
٠.	H 781. Bathri, Chamba, 3,000 feet 49 H 20. Madhan, Simla, 6,000 feet
83 0	P. communis, Huds., forma alucha. The Plum.
	Syn.—P. ALOOCHA, Royle. Vern.—Alúcha, olchi, shaft 'úlu, er, aor, gardalu, PB.,; Bhotiya badám. Ladúkhi b lám, Almora.
	A moderate sized tree cultivated from Garhwal to Kashmir in the Weston immalaya. Vood reddish-brown, hard, very close-grained, smooth to work warps and splits. Weight 52 lbs. per cubic foot.
•-	It is used in Kashmir for the skeleton of the so-called papier-mache boxes. Bbs. H 151. Giri Valley, Simla, 4,000 feet 52
831	P. martabanica, Wall.
J	Vern.—Thitmanku, BURM. A large evergreen tree rather frequent in the tropical and moiste upper mixed forests of the Andamans, also Tenasserim. Wood heavy, cross-grained, reddish coloured. B 1975. Andamans, 1866.
832	P. Padus, Linn.
	Vern.—Páras, kalakat, gidar-dák, bart, súm, sam, sambu, jamu, chúle dúdla, krún, PB.; Jamana, HIND., Likh-aru, arupatti, NEPAL; Hlo sa hlot-kúng, LEPCHA. A moderate sized deciduous tree found in the Himalaya, from the
1	Indus to Sikkim, between 4,000 and 10,000 feet. Sapwood large, whitish. Heartwood reddish-brow., with an unpleasant smell, beautifully mottled on a radial section by the shining medulary rays, moderately hard. It has often a very handsome grain and
•	deserves to be better known. It is scarcely ever used. Ibs.
	H 916. Hazara, 7,000 feet
•	The two Larjeeling specimens are perhaps P. nepalensis, Ser. Hook., Fl. Ind., 316.

•	PSIDIU
Prunus Puddum, Roxb. •	833
Vern.—Chamiéri, amalgúch, pája, pajia, PB.; Paddam, páya, HIND.;	
Kongki, LEPCHA. A moderate sized (in Sikkim, a large) deciduous tree, wild in the Himalaya, from the Indus to Assam, between 2,500 and 7,000 feet, Khásia Hills.	-
Sapwood large, greenish, white. Heartwood reddish, beautifully mottled on a radial section by narrow, wavy, shining, medullary rays: fairly durable, easy to work, moderately hard, scent pleasant, resembling that of P. Mahaleb. Weight, the average of our specimens is 44 lbs. per cubic foot. Gamble says 40 to 45 lbs. The wood is used in the Punjab Himalaya for walking-sticks; in Darjeeling occasionally for furniture. It deserves to be better known, and to be more extensively used, as at any fate in Sikkim it is common and reaches a large size. H 46. Nagkanda, Simla, 7,000 feet	
PSEUDOSTACHYUM. Pseudostachyum compactiflorum, Kurz., GRAMINEE. Vern.— A bamboo growing on the hills of Martaban between 4,000 and	834.
6,000 feet. Stems 15 to 25 feet.	_
(Specimens wanted.) P. Helferi, Kurz. A gregarious bamboo found on the hills in Burma up to 3,000 feet. Stems 20 to 25 feet. B 1318. Toungop.	835
(Information and specimens wanted.)	
P. polymorphum, Munro. Vern Purphiok, paphok, LEPCHA; Filing, NEPAL. A small bamboo found in Sikkim at 4,000 to 6,000 feet, and in Assam. Stems green, soft. Used for baskets, mats, and for tying the rafters, &c., of native houses and huts.	836
E 1340. Darjeeling Terai.	
. PSIDIUM.	
Psidium Guava, Raddi, Myrtacez.	837
THE GUAVA TREE.	
Syn.—P. Pomiferum and P. Pyriferum, Willd. (Roxb., Fl. Ind., ii., 480.) Vern.—Amrát, amrúd, safriúm, Hind. & N. W. P. Piyara, Beng.; Peru, Bom.; Amuk, Nepal.; Modhuriam, Ass.; Segapu, kaoya, Tam.; Jama, coya, Tel.; Pela, Mal.; Sebe, Kan.; Gaya, Magh; Malaka beng, Burm.	
A small evergreen tree, introduced from America, now widely cultivated, and in some parts of Bengal naturalised.	•

TEROCAR-PUS.

Further information regarding this fact much required, as it seems unknown in the rest of India.

Wood whiteish, moderately hard, even-grained. Skinner says that it works well and smoothly. Weight 42 to 47 lbs. per cubic foot.

It is used for wood-engraving and for spear handles and instru-

ments. (Skinner.)

lhs. O 1355. Gonda, Oudh .

PTEROCARPUS.

838

Pterocarpus indicus, Willd., Leguminosæ.

Andaman Redweod.

Svn.-P. DALBERGIOIDES, Roxb. (Fl. Ind., iii, 236.)

Vern.—Padouk, Burm.; Chalanga-dá, And.

A large and lofty tree found in Burma and the Andaman Islands. Home's valuation surveys in the Andamans gave an average of mature trees per acre, which shews what a large quantity of the wood might be made available for export.

Sapwood small; heartwood dark-red, close-grained, moderately hard to hard, with a slight aromatic scent. It is durable and not attacked by white-ants. When thoroughly seasoned it is almost unaffected by the alternate decrease and moisture of the atmosphere. It seasons well, works well and takes a very fine polish. The weights of specimens from Pama differ considerably from those from the Andamans, the

"If being much lighter, the wood softer, and the colour rather lighter. Used for furniture, carts, gun-carriages and other purposes. It is said to be the most useful wood in the Andamans, where it grows to an enormous size. Major Protheroe describes a tree felled in 1876 with a clear stem of 65 feet and a girth of 17 feet, and says that the wood of the root is closer-grained, darker-coloured, and more beautifully marked than that of the stem. The plank sent to the Paris Exhibition of 1878 measured nearly 4 feet across. In London, a portion of the same log from which the plank was cut fetched a price of £17-10s. per ton, or nearly Rs. 4 per cubic foot, while three logs lately sold in Calcutta fetched Rs. 60 per ton. Furniture made from Padouk wood and exhibited at Paris in 1878 by Messrs. Jackson and Graham was much admired. They reported on it as follows :-

"This is a straight-grown wood, with rather a coarse open grain, but without any strong figure or markings. When first cut it is of a reddish-brown colour, but it fades to much the same colour as teaka wood it resembles very much, and it is about as hard, but much heavier. From the six specimen trees sent us, we imagine that it does not grow to any great size. The largest sent to us measured 16 feet long x 1 foot 7 inches x 1 foot 6 inches. We consider it suitable for all kinds of furniture. We manufactured it into a suite of morningroom furniture, which was exhibited at the Paris Exhibition, and which stood the test of a very hot summer in a most satisfactory manner."

_										ibs.
В		Martal				•	•	•	•	бо
В	2524.	Pegu (1862)				•			60
В	2708.	Tavoy	(Walli	ch	, 1828)				•	62
В	2716.	,,	("		,,)			•		59
В	526.	Andan	ian Isl	an	ds .		•		•	46
	2207.			99	(1866)	•				43
В	2494.	"			(Home,	1874,	No.	1).	•	55

PTEROCAR PUS. 830

Pterocarpus Marsupium, Roxb.

Vern.—Bija, bijasár, bijasál, piasal, Hind.; Hitun, lúd, Kol.; Beeya, persar, Kharwar; Byasa, pyasál, Uriya; Dhorbeule, ásan, Mar.; Peddei, bijo, Gond.; Peddagi, yeanga, yeggi, yegísa, pedéga, pedéi, Tel.; Vengai, Tam.; Benga, honné, Kan.; Bijaira, Bijeragogarh; Radat bera, Buil.

A large deciduous tree of Central and South India, extending northwards to the Banda District of the North-Western Provinces.

Sapwood small; heartwood brown, with darker streaks, very hard, durable, seasons well, and takes a fine polish; the heartwood is full of red gum resin and stains yellow when damp.

It is much used for door and window frames, posts and beams, furniture, agricultural implements, cart and boat building. It has also been used for sleepers. Out of 25 sleepers which had been down 7 to 8 years on the Mysore State Railway, there were found, when taken up, 9 good, 11 still serviceable, and 5 bad. It has also been used to a certain extent on the Holkar and Neemuch and other lines.

							lbs.
C 175.	Mandla, Central						47
C 1105.	Ahiri Reserve, Co					•	58
	Moharli Reserve,			ovince	es		49
C 2918.	Seoni, Central Pr	ovince	25				56
	Khurdha Forest,	Oris	a				54
C 1238.	Gumsúr, Madras				\$\	•	56
W 742.	South Kanara						48
W 752.	,, ,,						- 45
W 850.	,, ,,				••		5
D 1061.	South Arcot				•	•	***
D 1086.							59
No. 39.	Salem Collection						52
С 3686.	Ramundag Reser	ves, F	Palamo	ow, C	hutia	Nag	gpur.

P. santalinus, Linn. f.

THE SANDERS RED OF RED SANDERS TREE, sometimes also called RED SANDAL WOOD, Eng.; SANTALE ROUGE, Fr.; ROTHFS SANDELHOLZ, Ger.; SANDALO ROSE, It.; SANDEL-HOUT, Dan.

Vern.—Rakta-chandan, Beng.; Lalachondana, Bom.; Lal-chandun, undum, Hind., Dec.; Shen-shandanum, seyapu chandanum, Tam.; Erragandhapu-chekka, Tel.; Kuchandana, tilapari, rajana, rakta chandana, Sans.; Sun, dul-surkh, undum, Pers.; Sundal-ahmerandana, Sans. undum, ARAB.

A small tree of South India, chiefly in Cuddapah, North Arcot, Karnul and other dry forests; cultivated in Bengal and other parts of India.

Sapwood white; heartwood purplish-black, dark orange-red when fresh cut, extremely hard, the shavings giving a blood-red orange colour. Weight about 76 lbs. per cubic foot.

The wood is used as a dye-stuff, and is largely exported from Madras to other parts in India. It is chiefly used to "mark idols and the forehead in ceremonies." The colouring principle is called "Santalin." It is soluble in alcohol, and is sometimes used to dye cloth, imparting a pale ink colour. Beddome says it is used for building purposes and for turning. It is exported from Madras in billets and root pieces as a dye-wood.

D 2066.				76
D 1075.	Madras (Brandis) North Arcot (with sapwood)	•	: •	 66
D 3151.	Cuddapah, Madras		•	77

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PII	EROS-
DEN	WITTE
PLB	MUM.

	PTEROSPERMUM.						
841	Pterospermum acerifolium, Willd., Sterculiace.						
	Vern. – Kanak-champa, mus, Beng; Hattspasla, Nepal; Lasder, Mcchi; Gasl, Magh.; Toungpetwoon, Burm.						
	A tall tree found in the sub-Himalayan tracts from the Jumna eastwards, Bengal, Chittagong, and Burma Often planted for ornament Sapwood white, heartwood soft to moderately hard, red. Weight average 47 5 lbs per cubic foot						
	Wood, somewhat resembling Thitka (Pentace burmanica, Kurs), is worthy of notice, it is sometimes used for planking in Bengal. This.						
	E 593. Khookloong Forest, Darjeeling Terai4						
	E 3596. Sivoke forests, Darjeeling Terai 46						
842	P. lanceæfolium, Roxb.						
Oqz	Vern.—Ban kalla, Brng.						
	A large tree of the sub-Himalayan tract from the Jumna eastward;						
	Eastern Beng il Kown to Chittagong Wood poderately hard, resembles the foregoing and P suberifolium						
	in star wife						
	O 3659. Saharanput, NW. Provinces.						
8 43	P. semi-sagittatum, <i>Ham</i> .						
	Vern.—Nagyce, Burm; Nwaleinbyeng, Magh.						
•	A moderate sized tree with an irregularly-shaped, fluted stem; wild in Chittagong and Burma, sometimes planted in other parts of India						
	Wood reddish- giev, moderately haid, durable, structure the same as						
	that of P acerifolium, but with more numerous pores and a few broader						
	medullary rays. Weight 40 to 50 lbs per cubic foot.						
	B 2511. Burma (1862) 40						
	B 2706. Tavoy (Wallich, 1828) 50						
	B 1418. Burma (Vern. <i>Hman</i>), resembles the wood of this species.						
_	B 1410. Burina (Verna 22 man), recensured the wood of sine species.						
844	P. suberifolium, Lam.						
	SynP CANESCENS, Roxb (Fl. Ind , 111, 162)						
	Vern. Baelo, giringa, URIYA; Lolagu, TEL; Taddo, TAM.; Velenge, Cingh.						
	A moderate sized tree of the Northern Circars and Carnatic. Wood light red, moderately hard, tough, structure the same as that of						
	P. acerifolium. Weight 36 to 40 lbs. Used for building, carts and other purposes.						
	lbs.						
	C 1250. Gumsúr						
	, , , , ,						
	110. 91. 00,101						
	C 3523 C 3534 Khurdha Forests, Orissa.						

		PYRULA RIA.
PUNICA.		
Punica Granatum, Linn., Lythrace E.	•	845
THE POMEGRANATE., Eng.; GRANADES, Fr.; GRANA	ats, Germ.	oit2
Vern.—Anár, dárim, dámú, HIND.; Anára, dálimba, d Dálim, Kumaun; Madalaich-chedi, Tam.; Danimma Shajratur rumman, Arab.; Darakhtenar, Pers.; Thole, A small tree, or a large shrub, wild in some portions Western Himalaya, cultivated throughout India. Wood light-yellow, with a small, darker-coloured, irreg heartwood, compact and close-grained. Weight about 57	dlimbe, Bom.; -chettu, Tel.; BURM. of the North- ularly shaped	
foot. Wood not used, but might be tried as a substitute for bo	xwood.	
P 106. Sutlej Valley, Punjab	1bs. • 57	
PUTRANJIVA.		
Putranjiva Roxburghii, Wall., Euphorbiace		846
Syn.—Nageia Putranjiva, Roxb. (Fl. Ind., iii, 766.)		
Vern. – Putújan, PB.: Jia pu ^t a, joti, júti, pútra-jion, patji gia, HIND.; Karupale, TAM.; Kadrajuvi, TEL.; Pong. dam putr, MAR.; Toukyap, BURM.	, jivputrak, pati , MAL.; Jewan	•
A moderate sized evergreen tree with pendant branch the sub-Himalayan tract from the Chenab eastwards, (Burma, and South India. Wood grey, shining, moderately hard, close-grained.	Judh, Bergal	·
49 lbs. The wood is sometimes used for tools and turning.	weight 300 to	
O 1459. Bahraich, Oudh	lbs. 48 49 48	
PYGEUM.		
Pygeum zeylanicum, Gaertn., Rosacez. Vern.—Galmorre, galmora, Beng. A large tree of South India and Ceylon. Wood close-grained, yellow, resembles Eriobotrya Weight, 65 lbs. per cubic foot. It is used and esteemed as fuel for burning bricks of lim No. 28. Adrian Mendis' Ceylon collection, marked Cr. bunda and Galmarre, Cinch., is probably this species. (Specimens wanted.)	ne.	1
PYRULARIA.	•	
Pyrularia edulis, A. DC., SANTALACEE.	•	848
Vern.—Amphi, Nepal; Safhyi, Lepcha. A small or moderate sized thorny tree of Nepar; Sii Khásia Hills, from 4,000 to 5,000 feet.	kkim and the	

	• • • • • • • • • • • • • • • • • • • •
PYRUS.	, ,
	Wood white, moderately hard, close-grained. Weight 47 to 50 lbs.
	It is used by Bhutias for dairy utensils.
:	E 2406. Tukdalf, Darjeeling, 5,000 feet
	PYRUS.
849	Pyrus baccata, Linn. Rosaceæ. The Siberian Crab.
· ,	Vern.—Bang mehal, gwálam, Hind.; Baror, liú, lhijo, liwar, PB. A small tree of the Himalaya, from the Indus to Bhutan, between 6,000 and 11,000 feet, and of the Khásia Hills. Wood white, with pale-brown heartwood, warps considerably. Structure similar to that of P. Pashia, but medullary rays slightly broader Weight 53 lbs. per cubic foot.
	E 967. Chumbi Valley, Tibet, about 10,000 feet . 53 (Specimens wanted.)
850	P. foliolosa, Wall. Vern.—Kharsani, Nepal. A shado or small tree of the Eastern Himalaya, between 7,000 and two feet. Wood white, with small, darker-coloured leartwood. Weight 45 lbs per cubic foot.
•	E 378. Tonglo, Darjeeling, 10,000 feet 45 E 3404. Tonglo, Darjeeling, 9,000 feet (has well-mark- ed medullary patches).
8 51	P. lanata, Don. Syn.—P. Aria, Ehrh. (Brandis.) Vern.—Gún palos, Arg.; Doda, chola, chilana, maila, paltu, ban pála kunghi, thánki, morphal, marpol, Ph.; Galion, mauli, paltu, ban paltu Hind. A moderate sized deciduous tree of the Himalaya, from the Indus to Bhutan, between 5,000 and 10,000 feet.
	Wood white, moderately hard, close and even-grained seasons well Weight 40 to 47 lbs. per cubic foot. Mathieu gives 46 to 58 lbs. It might be useful for boxes and other purposes for which a close and even-grained wood is required.
	H 64. Nagkanda, Simla, 8,000 feet 47 H 2887. Nagkanda, Simla, 8,000 feet 40 H 3186. Dungagalli, Hazara, 7,000 feet
852	P. Pashia, Ham. Syn.—P. VARIOLOSA, Wall. Vern.—Tang, batangi, keint, shindar, katári, kithu, ku, shegul, Pb. Mehal, mol, HIND.; Passi, NEFAL; Li, LEPCHA. A moderate-sized deciduous tree of the outer Himalaya, from th Indus to Bhutan. between 2,500 and 8,000 feet. Henriwood light reddish-brown, hard, close and even-grained; crack and warps. Weight 47 lbs. per cubic foot.
	206

•	·QUERCU
It is used for walking-sticks, combs, tobacco pipes, and various other purposes.	
• lbs.	
He 3185. Dungagalli, Hazara, 7,000 feet	_
H 23. Madhan, Simla, 6,000 feet 47	•
H 236. Garhwal Hills (1868)	:
Pyrus rhamnoides, Dene.	853
A tree of the Sikkim Himalaya between 7,000 and 9,000 feet. Wood moderately hard and close-grained.	
lbs.	
E 3403. Darjeeling (Specimens and vernacular names wanted.)	•
P. ursina, Wall.	854
Syn.—P. FOLIOLOSA, Wall. Hook. Fl. Ind., ii, 376 (in part).	.554
Vern.—Súlia, húlia, PB.; Wampu litsi, LAHOUL.	
A small tree of the Himalaya, from the Indus to Sikkim, between 6,000 and 12,000 feet.	ı
Wood white, with a small, brown heartwood. Structure similar to that	
of P. foliolosa. Weight 54 lbs. per cubic foot.	1
H 134. Lahoul, 10,000 feet	
H 3020. Hattu, Simla, 10,000 feet 54	
D monthly Wall	0
P. vestita, Wall.	855
Syn P. LANATA, Don.	
Vern.—Mayhell, guhor, NEPAL; Singka, BHUTIA.	•
A deciduous tree of the Eastern Himalaya, between 8,000 and 10,000 feet.	ı
Wood reddish with brown streaks, moderatery hard. Weight 44 lbs.	•
per cubic foot.	
E 380. Tonglo, Darjeeling, 10,000 feet 44	ı
E 380. Tonglo, Darjeeling, 10,000 feet 44	l
QUERCUS.	
Quercus acuminata, Roxb., Cupuliferæ.	
Vern.—Sanu, trkaula, NEPAL; Kanta, gola, batana, CHITTAGONG.	856
An evergreen tree met with in the Eastern Himalaya, Khásia Hills, and	
down to Chittagong, ascending to 6,000 feet.	
Wood light-red, very hard. Weight about 55 lbs. per cubic foot.	
The tree coppices well and is very good for firewood.	
E 2456. Tukdah Forest, Darjeeling, 5,500 feet . 43	
E 2456. Tukdah Forest, Darjeeling, 5,500 feet . 43 E 3333. Birch Hill Park, Darjeeling, 6,500 feet . 55	
E 3384. Darjeeling, 6,500 feet	
Q. annulata, Smith.	857
Syn.—Q. Phullata, Don.	931
• Vern.—Barán, brén, barín, banni, imbri, indri, PB.; Pharonj, phana,	
phaliant, inai, NW. P; Phalat, NEPAL; Siri, LEPCHA.	
A large evergreen tree found in the valleys of the outer Himalaya, ascending to 6,000 feet, Garhwal, in Kumaun, Nepal, Sikkim (6,000 to	. /
9,000 feet), Bhutan and Khasia Hills.	

ERCUS.

858

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859

Wood grey or greyish-brown, very hard, warps and cracks; a handsome, markedly mottled wood, polishes well. Weight 60 lbs. per cubic foot, the average of seven specimens. It is not much esteemed in the North-West Himalaya; in Darjeeling it is used for the same purposes as Q. lamellosa, but is not considered so good as that species. d 7. Hazara, 6,000 feet 55 Н 90. Bhajji, Simla, 4,000 feet 62 Raulagrad, Chakrata, 6,500 feet 423. Rangbúl, Darjeeling, 7,000 feet E 433-E 2451. Mishmi Hills (Griffith, 1836) 1439. 1443. E 3609. Darjeeling Ouercus dilatata, Lindl. Vern.—Záih, KAFIRISTAN; Bán, banji, banchar, barachar, baráin, banni, parúngi, chora, káli ring, máru, máur, moru, marghang, karsh, Pb.; Moru, tilangsa, kilonj, tilonj, timsha, N.-W. P. A large tree met with in Afghanistan, Sulaiman Range, and North-West Himalaya, between 7,000 and 9,000 feet. Forests of this tree almost pure exist near Simla, but the trees are generally spoiled by excessive lopping. The tree coppices well. Heartwood reddish-grey, with darker streaks, very hard, seasons well, is durable, and does not warp much. Weight 61 lbs. per cubic foot. It is used for building, for agricultural implements and jampan poles. Н Hazara, 8,000 feet 61 Н Mahasu, Simla, 8,000 feet 56 Н бq 40. H 2845. H 2873. Nagkanda, Simla, 9,000 feet 777. Kalatop Forest, Punjab, 7,000 feet Q. fenestrata, Roxb. Vern.—Kala chakma, Beng.; Patlé, katús, Nepal; Kashiondúng, Lep-CHA; Dingjing, KHASIA; Thithya, BURM. A moderate sized tree of Eastern Himalaya, between 5,000 and 8,000 feet, Khásia Hills, Eastern Bengal and hills of Martaban and Upper Tenasserim. Heartwood red, very hard. Weight about 56 lbs. per cubic foot. Used for building and farm purposes in the Khásia Hills. lbs. E 3338. Shillong, Khásia Hills, 5,000 feet B 552. Martaban Hills 56 Q. Griffithii, Hook. f. & Th. **Vern.**—Dingim, Khasia. A large deciduous tree found in the Khásia Hills at 5,000 to 6,000 feet. Wood brown, very hard, closely resembling that of the English oak. The timber is much used in the Khásia Hills for building and other

E 3337. Shillong, Khásia Hills, 5,000 feet

lbs.

860

purposes.

	Timbers.		•	· [PART VII.
	•	•		· QUERCUS.
Quercus Ilex, Linn.	•			86I
THE HOLM OAK.	•	•		
Syn.—Q. Ballot, Gri			•	1
Vern. —Charrei, serei, INDUS: Chúr. kehar	balút, AFG. ; Sperch a rsu, kharen irri, yúru,			
A moderate sized ever				
Range, arid tracts of the in	iner Himalaya, ger	nerally beta	Peen 3,000	and
8,500 feet, westward to Sou Heartwood red or red	dish-brown, very ha	ard, d urable	. It warps	and
twists, but when well season	ned it works admira	bly and tak	es a fine po	lish.
Weight generally between the largely used for			rought from	the .
Sulaiman Range for that p	urpose. It is also 🛚	sed for agr	icultural in	iple-
ments, and yields good fuel H 003. Upper Su		o t	lbs.	
Н 053. " "	itlej Valley, 8,000 fe		. 62 . 68	
H 1406. Sulaiman	Range (Stewart, 18	67) .	• 54	
No. 2978. Dalmatia		• •	• •••	
O. incana, Roxb. (Fl. Ind	l., iii, 642.)			862
THE GREY OAK.	ANCE. Phise HAZAR	. Pini nin		n (
Vern.—Vari, SALT R. banj, PB.; Banj, Ku	JMAUN.	i; Kinj, rin	, JHELUM;	Ban,
A large, evergreen, gree	garious tree found i	n the outer	Himalaya f	rom
the Indus to Nepal, betwee	en 3,000 and 8,000	o reet; it c	an be grow	n in
Heartwood very hard,	reddish-brown, wa	rps and sp	olits. It is	1 :CV
difficult to season. Weight	or ploughs, is a go	oot. od fuel an	d makes d	·
charcoal.	or Pro-Buo, 19 to Wo	ou ruel, un	lbs.	,000
11 899. Murree, 7,0			. 62	•
H 171. Kangra, 6,0 H 1. Simla, 7,000	ooo feet (<i>Stewart</i> , 18 o feet	• •	. 67	I
Н 24. "	,	•	. 66	
H 2867. " • H 2. Mahasu. Si	mla, 7,000 feet	•	·	
	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	•	. 00	
Q. lamellosa, Smith. Syn.—Q. pancilamfli	OSA. Albh. D.C.: O.	I.AMRII ATA	Rock (F)	863
iii, 641) (from Penang	g); Q. IMBRICATA, Do	n.		<i>m</i> .,
Vern.—Shalshi, pharat-				
A very large tree of Nep feet. It often attains 100	to 120 feet in heig	th, with a g	ifth of 20 to	000
feet, but old trees are very f	frequently hollow.	_	-	9
Heartwood greyish-brow section; does not warp to the	he same extent as	O. incana a	nd O. annul	ata
The wood is durable if not	much exposed to	wet. Weig	ht 59 lbs.	per
cubic foot. Used for beams and p	oosts in the construc	tion of hous	es and brid	700
and for door-posts, window-	trames, rafters, and	other hous	e building p	ur-
poses.	rest, Darjeeling, 7,5		lbs.	
E 2452. ,,	,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	"	. 63 • 59	
F atra	", S (Griffith, 1826)	" •	• 57	1
E 1448. " "	»	• •	· 573	ή.
0	-		209	
-			-09	•

QUE	RCUS.	, (
	864	Quercus lanceæfolia, Roxb. (Fl. Ind., iii, 634.) Syn.—Castanea Lanceæfolia, Kurs (ii. 482.) Vern.—Patlé katús, Nepal; Siri, Lepcha; Shingra, chauko, Garo; Bucklai, Ass.; Hingori, Cachar; Dingsning, Khasia. A small evergreen tree, met with in the sub-Himalayan tract, in Bengal and Chittagong, ascending to 4,000 feet. Wood gi. syish-while, hard. Weight, 42 lbs. per cubic foot.
		It is used for building in Assam. E 1262, Tezpur, Assam
, . •	865	Q. lanuginosa, Donn. Syn.—Q. LANATA, Wall. Vern.—Ranj, rianj, rai banj, Kumaun; Banga, Nepal. A large, evergreen tree, met with at Naini Tál and a few other places in Kumaun, between 6,000 and 7,500 feet; gregarious, or associated with Q. incana. Wood greyish-brown, very hard, warps and splits. Weight 55 lbs. per cubic foot. It is used for firewood. lbs. H 2968. Naini Tál, 7,000-feet 55
	866	Q. lappacea, Roxb. (Fl. Ind., iii, 637.) Vern.—Oolu chakma, Beng.; Thitcha, Burn. An evergreen tree of the Khásia Hills, Eastern Bengal, and Tenasierim. Sapwood light-brown of yellow. Heartwood very hard, reddish. Weight about 56 lbs.
	•	B 553. Upper Tenasserim
	867	Q. pachyphylla, Kurz (in Journ. As. Soc. Bengal, vol. xliv., 197, 1875.) Vern.—Bara katús, Nefal; Hlosiri, Lepcha. A large evergreen tree, found in the higher ranges of the Sikkim Himalaya, above 7,000 feet, the common oak of the forests between 8,000 and 10,000 feet. Wood grey, very hard, seasons well, does not warp or split; is more durable under exposure to damp than that of Q. lamellosa and annulata. Weight 50 lbs. per cubic foot. It is largely used in Darjeeling for planking, palings, shingles, and other purposes. E 364. Rangbul Forest, Darjeeling, 7,500 feet . 51 E 2455. Rangirúm " " 48 E 2455. Rangirúm " " 51 E 3607. Darjeeling
c	868	Q. semecarpifolia, Smith. Veta.—Barchar, jangal-ka-parángi, JHELAM; Keru, khareu, krái, CHENAB, RAVI; Karshu, karsúi, karsu, sáuj, SUTLEJ to SARDA; Ghesi, kasru, NEPAL. A large evergreen tree, found in Afghanistan, North-West Himalaya, between 8.000 and 10.000 feet. Nepal and Bhutan. "It forms vast forests."

•	
	RANDIA
partly pure, partly mixed with the silver fir, above all other trees." (Brandis'	
Vegetation and Country from Nagkanda to Pangi), Heartwood grey, often with a reddish tinge, very hard. Weight 53	
to 54 lbs: per cubic foot. Used for building, door-frames, bedsteads, carrying poles, helves, and	•
ploughs; is a good firewood, and yields good charcoal. It coppies well	•
H 39. Mahasu, Simla, 9,000 feet	
H 72. Nagkanda, Simla, 9,000 feet 53	
H 2893. " " "	06-
Quercus serrata, Thunb. Syn.—Q. POLYANTHA, Ldl.	869
Vern.—Dingrittiang, KHASIA.	1
A moderate sized deciduous tree of the North-East Himalaya and Khásia Hills, from 3,000 to 5,000 feet.	•
Wood brown, very hard. This much resembles Q. Griffithii in struc-	-
ture, and also comes near that of the English oak. It is used in Assam for building.	
E 3339. Shillong, Assam, 5,000 feet.	
Q. spicata, Smith.	870
SynQ. squamata, Roxb. (Fl. Ind., iii., 638.)	•
Vern.—Danwa, singali, phaco singali, arkaula, Nepal; Bara chakma, Beng.; Kacheeng, Lepcha; Sahu hingori, Ass.; Dingjing, Khasia; Thitcha, Burm.	
A large evergreen tree of Nepal, Sikkim up to 5,000 feet, Eastern	
Bengal, Burma and Indian Archipelago. It coppies very freely and is often almost gregarious or mixed with chestnut, Engelhardtia and Schima.	
Wood red, very hard. It is very durable and does not warp. Weight	
58 lbs. per cubic foot. It is used for building in Assam, and for charcoal in Darjeeling.	•
lbs.	
E 595. Khookloong Forest, Darjeeling Terai 56 E 1444. Mishmi Hills (Griffith, 1836) 59	
E 1445. , , • , , (,, ,,) · · · 55	
B 545. Martaban Hills 63	
, RANDIA.	
Randia dumetorum, Lam., Rubiaceæ.	871
Syn.—Posoqueria dumetorum, Willd.	~ , _
vern.—Mindla, mandkolla, arara, PB.; Mainphal, manyūl, karhar, main, mainhūri, manneul, arar, HIND.; Maidal, amuki, NEPAL; Gundrow,	
Vern.—Mindla, mandkolla, arara, PB.; Mainphal, manyúl, karhar, main, mainhúri, manneul, arar, HIND.; Maidal, amuki, NEPAL; Gundrow, MECHI, Gurd, RAJBANSHI; Panji, LEPCHA; Portoho, Kol.; Kharhar, ORAON; Patiwa, URIYA; Madu, karray, TAM; Manda, TEL.; Gera, gulay, MAR.; Kuay, katúl, GOND; Bhita, Kurku; Karé, KAN.	
galay, MAR.; Kuay, katál, Gond; Bhila, Kurku; Karé, Kan. A deciduous thorny shrub or small tree found throughout India, ex-	
tending in the North-West outer Himalaya as far as the Beas.	
Wood white or light-brown, compact, hard. Weight 55 lbs. per cubic foot.	
•It is used for agricultural implements, fences and fuel.	
O 262. Garhwal (1868) 54	
O 1366. Gonda, Oudh 50	•
O 1461. Bahraich, Oudh 62 • O 1488. Kheri, Oudh 54	
211	

	A
amnus.	
	C 2750. Moharli Reserve, Central Pro vinces (young) 45
	C 2709. Melghát, Berar (young) 48 E 481.) Vi calleng from Decision Toront
•	E 493. Khookloong forest, Darjeeling Terai
t	E 2386. Bamunpokri, Darjeeling Terai
872	Randia tetrasperma, Bth. & Hook. f.
	Syn.—Gardenia tetrasperma, Roxb. (Fl. Ind., i, 709.)
	Vern.—Bara'garri, batya gingaru, Kumaun. A small procumbent shrub of the Himalaya, from the Indus to
	Bhutan, ascending to 6,000 feet.
	Wood white, very hard. Weight 56 lbs. per cubic foot.
•	H 157. Simla, 6,000 feet
r	H 2821. " 5,000 "
873	R, uliginosa, DC .
	Syn.—Posoqueria uliginosa, Rozb. (Fl. Ind., i, 712.)
	Veru.—Pindálu, pindar, panár, paniah, bharani, katúl, HIND.; Piralo, BENG.; Maidal, NEPAL; Kúmkúm, KOL.; Kaurio, PANCH MEHALS; Pendra, URIYA; Katil, pender, GOND; Gangru, gangáru, KURKU; Nallaika, nalla kakisha, TEL.; Wagatta, TAM.; Karé, pendri, KAN.; Telphetru, panelra, phetra, pindra, MAR.; Tapkél, BHIL; Mhanihen mbanbyoo, BURM.
	Pendra, URIVA; Katil, pender, GOND; Gangru, gangaru, KURKU;
	Telphetru, panelra, phetra, pindra, MAR.; Tapkél, BHIL; Mhani-
	ben, mhanpyoo, BURM. A small deciduous tree of the sub-Himalayan tract from the Jumna
	eastwards, Oudh, Bengal, Burma, Central and South India.
	Wood whitish grey, close-grained, hard, no heartwood. Weight 48 lbs. per cubic foot.
	lbs.
	O 542. Dehra Dun
f	O 1487. Kheri, Oudh 51
	C 2782. Melghát, Berar
	C 2756. Mohalri Reserve, Central Provinces
	W 992. North Kanara 46
	REPTONIA.
874	Reptonia buxifolia, A. DC., Myrsinez.
	Vern.—Garar, Afg.; Gúrgúrá, PB. A large evergreen shrub or small tree met with in the Salt Range and
	hills Trans-Indus.
	Wood light-brown, with irregular purplish-brown heartwood, very hard, heavy, close and even-grained. Weight 71 lbs. per cubic foot.
	It is worthy of attention.
	lbs. P 169. Kohat
	P 912. Salt Range
	RHAMNUS.
875	Rhamnus procumbens, Edgew., Rhamnez.
•	A small procumbent shrub of Western Himalaya from Simla to
	Kumaun, between 7,000 and 8,000 feet. Wood yellowish, with the same structure as that of R. virgatus.
	H 2952. Naldehra, Simla, 7,000 feet.
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	RHIŻO- PHORA.
Rhamnus purpureus, Edgew. Vern.—Bat sinjal, tunani sanani, tandra, tundhi, mimarari, kunji, chaterni, PB.	876
A large deciduous shrub of the North-West Himalaya from the Indus to Nepal, between 4,500 and 10,000 feet. Wood brownish-grey, close-grained. Weight 41 lbs. per cubic foot.	•
H 70. Mashobra, Simla, 7,000 feet 41 H 2848. Mahasu, Simla, 8,000 ,,	
R. triquetrus, Wall. Vern.—Gudlei, Simla; Fagora, gardhane phulla, Pb.; Gogsa, ghant, N. W. P. A deciduous shrub or small tree, of the North-West Himalaya from the Jhelum to Nepal, between 3,000 and 6,000 feet. Wood yellowish-white, moderately hard, close-grained. H 75. Mashobra, Simla, 7,000 feet. H 2903. Nagkanda, Simla, 8,000 feet.	877
R. virgatus, Roxb. (Fl. Ind., i, 604.) Syn.—R. DAHURICUS, Pall.; R. HYRSUTUS, W. & A. Vern.—Phipai, dúdúr, tadru, setu pajja, kúnji, mamrál, shomfol, reteon, gogsa, sindrol, mútni, nior, chatr, romúsk, PB.; Thalot, chetain, Simla; Tsúpo, mail, Tiber, Spitt; Chato, chedwala, chadua, Hind. A shrub or small tree, deciduous, found throughout the Himalaya and Western Ghâts. Sapwood whitish, heartwood brown, very hard and close-grained Weight 56 lbs. per cubic foot. Wood not used except as firewood.	8 78
H 79. Mashobra, Simla, 7,000 feet 57 H 2877. Nagkanda, Simla, 8,000 ,,	
RHIZOPHORA,	
Rhizophora mucronata, Lamk., RHIZOPHOREE. THE MANGROVE. Syn.—R. MANGLE, Roxb. (Fl. Ind., ii, 459.) Vern.—Bhara, Beng.; Kamo, Sind.; Upoo-poma, Tel.; Byoo, byooma, Burm.; Bairada, jumuda, And.; Kadol, Cingh. A small evergreen tree, found near muddy shores and tidal creeks of India, Burma, and the Andaman Islands. Sapwood light-red; heartwood dark-red, extremely hard, splits and warps a little in seasoning. Weight 70'5 per cubic foot. The wood is good, but is rarely used. It is durable, e.g., B. 2721 has been kept 50 years in Calcutta and is still quite sound.	879
B 2721. Tavoy (Wallich, 1828)	· •

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RHODO-	
DENDRON.	

IDRON.	,
	RHODODENDRON.
880	Rhododendron arboreum, Sm., ERICACEÆ.
'	Syn.—R. PUNICEUM, Roxb.
	Vern. Chhán, HAZARA; Ardáwal, JHELUM; Mándál, CHENAB; Chiu, áru, RAVI; Brás, broa, búrans, búrúnsh, BEAS to the SARDA RIVER; Brus, Kumaun; Bhoráns, parás, ghonás, toggá, lal gurás, Nepat; Etok, Bhurtus Lybena, Billi Acomaram Nicolas, Magazina, Chich
	BHUTIA, LIPCHA; Billi, poomaram, NILGIRIS; Ma-ratmal, CINGH. A small evergreen tree of the outer Himalaya from the Indus to
	Bhutan between 3,000 and 11,000 feet, hills of Southern India and Ceylon, and Karennee Hills in Burma.
	Wood soft, reddish-:/hite or reddish-brown, close and even-grained; seasons very badly, and is apt to warp and shrink. Weight 41.4 lbs. per
,	cubic foot. It is chiefly used for fuel and charcoal, but is also sometimes employed
	for building and for making dishes, in Sikkim for "kukri" handles, boxes, and other small articles, and on the Nilgiris for gun-stocks and posts.
	lbs.
	H 3171. Dungagalli, Hazara, 7,000 feet
	H 14. Simla, 7,000 feet 45
	H 73. Mashobra, Simia, 7,000 fect 45
	E 371. Senchul forest, Darjeeling, 7,500 feet . 39
	E 383. Tonglo, Darjeeling, 10,000 feet 39
	E 2388. Tonglo, Darjeeling, 7,000 feet
'QQ-	D agrantour Voh f
901	R. argenteum, Hook. f.
	Vern.—Kali gurás, putlinga, NEPAL; Etok-amat, LEPCHA. An evergreen tree, met with in hills of Sikkim, common on the outer
	ranges round Darjeeling and Dumsong, from 6,000 to 10,000 feet.
	Wood yellowish, with darker heartwood, shining, soft, close and even-
	grained; warps less than that of R. arboreum. Weight 39 lbs. per cubic
	foot.
	E 373. Tonglo, Darjeeling, 9,000 feet 39
990	
882	R. barbatum, Wall.
	Vern.—Gurás, chimal, Nepal; Kému, Bhutia.
	A small evergreen tree of the Eastern Himalaya, from 8,000 to 11,000 feet,
	Wood light-pinkish-red, shining. Weight 39 lbs. per cubic foot.
	E 375. Yonglo, Darjeeling, 10,000 feet 39
883	R. campanulatum, Don.
003	Vern.—Gaggar, yurmi, Kashmir; Sarngar, shinwala, Ravi; Shargar, Beas; Simrung, Sutlej; Chimul, Kumaun; Cheriala, teotosa, Nepal.
	An evergreen shrub, found in the inner Himalaya from the Indus to
	Nepal, between 0,500 and 14,000 feet; the outer ranges on Chor and Ke-
	darkanta; and Sikkim at 11,000 feet. (C. B. Clarke.)
1	Wood light pinkish-red, moderately hard. Weight 39 lbs. per cubic
	foot, e lbs.
}	'H 121. Jalari Pass, Seoraj, Kulu, 10,000 feet 39
	H 128. Rotang Pass, Kulu, 13,000 feet

•	
• •	RHÜS.
Rhododendron cinnabarimum, Hook. f.	884
Vern.—Búlú, Nepal; Kema kechoong, Lepcha. A large shrub, met with in the Sikkim Himalaya above 12,000 feet.	1
. Wood grey, moderately hard, even-grained; warps. Weight 42 lbs. per cubic foot.	•
E 2958. Sandukpho, Darjeeling, 12,000 feet . J. 42	•
R. Falconeri, Hook. f.	885
Vern.—Kurlinga, Nepal; Kégu, Bhutia. A moderate sized evergreen tree, found in the Hills of Sikkim, especially the summit of Tonglo, at 10,000 feet. Wood reddish-white, shining with a beautiful satiny lustre, takes a beautiful polish, is hard and does not warp. Weight 39 lbs. per cubic foot.	
lbs. • E 369. Tonglo, Darjeeling, 10,000 feet 39	•
R. fulgens, Hook. f. Vern.—Chimal, Nepal. A small tree or large shrub of the Sikkim Himalaya, from 12,000 to 14,000 feet. Wood grey, darker in the centre, moderately hard, even-grained. Weight 36 lbs. per cubic foot.	l
E 2957. Sandúkpho, Darjeeling, 12,000 feet 36	
RHUS.	
Rhus Cotinus, Linn., ANACARDIACEE. Vern.—Paán, hhán, manu, banthra, túng, titri, PB.; Túnga, tung, chaniát, ámi, NW. P. A shrub or small tree, deciduous, met with in the Sulaiman Range, North-West Himalaya to Kumaun, ascending to 6,000 feet. Wood moderately hard; sapwood small, white; heartwood mottled, of a rich dark-yellow colour. Weight 56 lbs. per cubic foot.	
Used in South Europe for inlaid and cabinet work. In the Himalaya the twigs are used for basket-making. H 85. Bhajji, Simla, 6,000 feet	
R. insignis, Hook. f. Vern.—Kugphulai, Nepal; Serh, Lepcha. A moderate sized tree found in Sikkim and the Khásia Hills, above 4,000 feet.	1
Wood grey, soft; heartwood yellowish-brown. Weight about 26 lbs, per cubic foot. E 3104. E 3105. Darjeeling, 7,000 feet	
	00-
R. mysorensis, Heyn:. Vern Dasarni, AJMERE. A small shrub, met with in the Sulaimar Range, Sind, Punjab, Rajputana, and the Dekkan.	. 889

RHUS.	•
	Wood hard, pinkish-yellow, close-grained, heavy. It is used only for fuel.
	P 3231. Nagpahar Forest, Ajmere. P 3248. Ajmere.
890	Rhus punjahensis, J. L. Stewart.
-	Vern' Titri, anthar, palai, choklu, kangar, kakkrein, dor, rashtu. Ps.
	A moderate sized deciduous tree of the North-West Himalaya, ascending to 8,500 feet.
	Wood consists of alternate layers of soft, porous spring wood and hard autumn wood. Heartwood yellowish-grey, with dark longitudinal streaks, moderately hard. Weight 34 lbs. per cubic foot.
	H 19. Matiyána, Sımla, 8,000 feet 33
	H 3051. Kotgarh, Simla, 7,000 feet 35
	H 3170. Dungagalli, Hazara
891	R. semialata, Murray.
	Syn.—R. BUCKIAMELA, Roxb. (Fl. Ind, ii, 99); R. JAVANICA, Linn.
	Vern.—Tatri, titri, chechar, arkhar, arkol, kakri, dúdla, kakkeran, wûnsh hulashing, PB.; Rashtu, Susthj; Dakhmila, dáswila, NW. P.; Bak kiamela, bhagmili, Nepal f Takhril, Lepcha.
	A moderate sized deciduous tree of the outer Himalaya from the Indus to Assam, ascending to 7,000 feet; Kl.ásia Hills,
	Wood soft, shiring, grey with darker streaks. Weight about 27 lbs per cubic foot.
	It is not used.
	H 80. Bhajji, Simla, 5,000 feet
	H 2942. Suni, Sutlej Valley, 3,000 feet 27 H 3079. Annandale, Simla, 6,000 feet
	E 2340. Tukdah, Darjeeling, 5,000 feet
892	R. succedanea, Linn.
	Syn.—R. ACUMINATA, DC. Vern — Tatai arkal titar lakkan nikkul akash kunku Pn . Panimalai
	Vern.—Tatri, arkol, titar, lakhar, rikhul, shash, hurku, PB.; Raniwalai, NEPAL; Serhnyok, LEPCHA; Dingkain, KHASIA.
	A small deciduous tree, met with in the Himalaya, from the Jhelum to Assam, and the Khásia Hills, from 2,000 to 8,000 feet.
	Wood white, shining, soft, with small darker-coloured heartwood Weight 32 lbs. per cubic foot.
	It is not used.
	H 2907. Nagkanda, Simla, 7,000 feet 32 H 3167. Dungagalli, Hazára
893	R. Wallichi, Hook. f.
- 70	Syn.—R. vernicifera, DC.
	Vern,—Kambal, gadúmbal, rikhali, arkhar, arkol, lohása, harkú, Pb.; Akoria, kaunki, òhaliún, NW. P.; Bhálaio, chosi, Nepal.
	A small or moderate sized tree found in the North-West Himalaya,
	from 2,000 to 7,000 feet. Sapwood white, soft; heartwood reddish-brown, yellow when dry.
	(Brandis.)
	The wood is used in the Sutley Valley for saw frames and axe handles.
	H. 3078. Annandale, Simla, 6,000 feet.

	T	imbers.		•	· [PART VII
		•	•		ROSA.
	RI	BES.			
	hay, Внитіл. o found in Himal	•	shmir to 1	B b utan, betw	894 /een .
Wood white, H 3021. } H 3022.	Hattu, Simla, 10 Nagkanda, Siml	,000 feet		out 63 lbs. lbs 63	
№ 3025.	Matiyána, Simla Chumbi Valley,	. 9,000 feet		t . 68	•
	RIC	INUS.			
Vern.—Ra SALI RA tamunu Haralu, A large shrut cultivated throu Wood white,	Inis, Linn., EUR STOR OIL PLANT and, arand, arendi, ANGF; Ind-rendi, K k, TAM.; Mandum KAN.; Kyeksu, Bu o or small tree, in ghout India, and soft, light, with la Naltanpara, Wes	or PALMA Citi ind, HIND.; umaun; Orer, I , amdi, sittam; RM. digenous in A often found ru arge central pi	Aneru, Ci Nepal; <i>Ra</i> Indi, Tel. rabi å an n wild.	klop, Lepcha; ; Nerinda, Go	Sit-
	ROD	ETIA.			
Vern.—Bilg	RINGIA AMHERSTIA ga, Koti.	NA, Wall.		1 D	896
	gling shrub of the of the of the off. Weight 41 l			a and Burma	•
Н 3097.	Koti, near Simla	, 6,000 feet	• •	. 41	
•	R	OSA.			
bankoi, S A thorny shr between 3,500 an	db, ban-guldb, Hini Simla. Tub, met with in the d 10,000 feet. nd compact. We	o.; <i>Tikjik</i> , Сне he Himalaya,	from the	Indus to Sikl	
H 2872.	Nagkanda, Simla Mahasu, Simla	, 8,000 feet ,,	• •	 • 55 • 59	

RUBUS.

898

Rosa moschata, Mill.

Vern.—Kuji, kajei, karer, kwia, kwiala, Hind.; Phulwara, chal, Kashmir.

A large, thorny, climbing shrub, found in the North-West Himalaya, from Afghanistan to Nepal, ascending to 11,000 feet.

Wood moderately hard, porous.

H 175. Bhajji, Simla, 5,000 feet.

999

R. sericea, Lindl.

A thorny shrub found in the Himalaya, from the Sutlej to Bhutan, from 0,000 to 14,000 feet.

Wood very hard, darkening on exposure.

E 2366. Suburleum, Darjeeling, 11,000 feet.

ROYLEA.

900

Roylea elegans, Wall., LABIATÆ.

Vern.—Kaur, kauri, PB.; Titpáti, KUMAUN; Patkarru, HIND.

A shrub met with in the North-West Himalaya, from the Ravi to Nepal. up to 3,000 feet.

Wood white, hard. Weight 52 lbs. per cubic foot.

lbs.

II 3045. Komharsen, Sutlej Valley, 4,000 feet

52

RUBUS.

OOI

Rubus ellipticus, Smith, Rosace E.

Syn.—R. FLAVUS, Ilam.; R. GOWREEPHUL, Roxb. (Fl. Ind., ii, 157.)
Vern.—Akhi, ankri, kunúchi, guracha, pukana, PB.; Esar, hishalu, hisalu,
KUMAUN; Tolu aselu, escalu, cesi, NEPAL; Kashyem, LEPCHA.

A large thorny shrub, met with in the Himalaya, from the Indus to Bhutan, between 1,500 and 8,000 feet, the Khásia Hills and Assam. Wood moderately hard, light-brown.

E 2367. Tukdah Forest, Darjeeling, 5,000 feet.

002

R. lasiocarpus, Smith.

Vern.—Gunacha, pukana, HAZARA; Kandiári, lharmuch, súrganch, KASHMIR; Túlanch, CHENAB; Niú, kalliach, BEAS; Klenchu, galka, SIMLA; Kalga, SUTLEJ; Kalawar, kala hisalu, KUMAUN; Kala aselu, NEPAL; Kajutalam, LEPCHA.

Met with in the Himalaya, Khásia Hills, Burma, South India, and Ceylon.

E 2368. Tukdah Forest, Darjeeling, 5,000 feet.

003

R. lineatus, Reinw.

Vern .- Gempé aselu, NEPAL.

A large thornless shrub found in the Sikkim Himalaya, 6,000 to 9,000 feet.

Wood yellowish-brown, in structure resembling that of R. ellipticus.

E 3307. Darjeeling, 7,000 feet.

E 3383. Senchal, Darjeeling, 8,000 feet.

• •	SALIX
RUMEX.	
Rumex hastatus, Don, Polygonacez.	904
Vern.—Katambal, khattimal, JHELAM; Ami, CHENAB, RAVI; Malorigha,	9,4
amla, Beas; Amlora, Sutlej; Almora, Kumaun.	
An undershrub or shrub of the North-West Himalaya, from 2,500	
to 9,000 feet, chiefly on rocks and dry hill-sides. • Wood light-red, moderately hard.	
H 3048. Kot, Sutlej Valley, 2,500 feet.	
, , , , , , , , , , , , , , , , , , , ,	
SACCOPETALUM.	
Saccopetalum tomentosum, Hook, f. & Th., Anonace	905
SVn.—UVARIA TOMENTOSA. Roxb.	903
Vern.—Kirna, karri, HIND.; Hoom, BOM.; Chilkadúdú, Tel.; Thoska, Gond; Humba, Kurku; Oné, hake húmú, Kol; Hessare, Kan.	•
A large tree with straight stem, found in Oudh, Nepal Terai, Go-	
rakhpur, Behar, Central India, and Western Ghâts,	
Wood olive-brown, moderately hard, smooth, close-grained; no heartwood. Weight 45 lbs. per cubic foot.	
lbs.	
O 342. Gorakhpur (1868)	
C 1109. Ahiri Reserve, Central Provinces 45	
SAGERETIA.	
Sageretia Brandrethiana, Aitch, RHAMNEE.	906
Vern.—Ganger, goher, PB.; Maimúna, AFG.	· •
A small deciduous shrub, met with in the Sulaiman and Salt Ranges, and North-West Himalaya between the Indus and the Jhelum.	
Wood yellow, very hard, close-grained.	
P 914. Salt Range, Punjab.	
S. theezans, Brongn.	907
Vern.—Dargola, SIMLA; Drangu, ankol, kauli, karur, phomphli, kanda,	3 -7
brinkol, chaunsh, katráin, thum, kúm, PB. A large spinescent shrub, found in the Salt and Sulaiman Ranges,	
Western Himalaya from Kashmir to Simla, from 3,000 to 8,000 feet.	
Wood very hard, white, with irregular dark-coloured heartwood.	
H 2946. Suni, Sutlej Valley, 3,500 feet	
H 2951. Naldehra, Simla, 7,000 ,,	
H 3129. Koti, Simla, 6,000 ,, 56	
. SALIX.	
Salix babylonica, Linn., Salicines.	000
THE WELPING WILLOW.	908
Vern.—Bisa, bada, bed, katira, majnún, PB.; Giúr, KASHMIR; Tissi, bhosi,	
NEPAL. A tree with pendent branches, commonly grown for ornament in North India. Said by Stewart to be indigenous in the Sulaiman Range.	•
Wood white.	
219	

SÄLIX.

The branches are made into baskets and used for weirs and the protection of canal banks.

H 3060. Koti, Simla, 7,000 feet.

. 000

Salix daphnoides, Vell.

Vern.—Bed, bidái, betsa, beli, bushan, bashal, bhail bhéul, mudanu, shún, tháil, PB.; Yúr, KASHMIR; Changma, chúmma, malchang, kalchang, West Tibet; Richang, roangching, chankar, LAHOUL.

A shrub or tree of the North-West Himalaya, both on the outer ranges and in the inner arid tract. It extends to the Alps and the mountains of Central Europe.

Heartwood red, shining. Weight 33.5 lbs. per cubic foot.

The wood is used in the arid inner valleys for building ails, tubs, and tools The twigs are used for baskets, twig bridges in Piti, Zanskar, and Ladak, and for building (willow wattle and daub) in Ladak.

						IDS.
H 2854.	Mahasu, Simla,	7,000 feet		•		•••
H 47.	Kalashi, "	7,000 ,,	•	•	•	30
H 66.	Nagkanda "	8,000 ,,	•			34
H 2905.	,, ,,	9,000 ,,	•	•	•	
Н 3034.	77 72	8,000 ,,	•		•	37
Н 3036.	_ , ,, ,, ,,	8,000 ,,		•	•	33
H 142.	Lahoul, about	9,000 ,,				34

QIO

S. elegans, Wall.

Vern.—Bail, blail, bhains, SIMLA.

A small shrub of the North-West Himalaya, from 7,000 to 10,000 feet, as far east as Nepal, Lahoul, Kunawar, as high as 11,500 feet, Wood pinkish. Weight 33 lbs. per cubic foot.

								ıps.
		Mahasu,				•		33
Н	2906.	Nagkanda	, ,,	9,000	,,	•	•	•••

QII

¢.

S. fragilis, Linn.

Vern.—Tilchang, LAHOUL. A tree cultivated in Lahoul and Ladak.

Wood with reddish heartwood. Weight, 28 lbs. per cubic foot. H 141, from Lahoul, is probably this species.

012

S. sp. (It may be near viminalis.)

A deciduous shrub.

Wood soft, close-grained, heartwood red. Weight 31 lbs. per cubic foot.

E o66. Chumbi Valley, Tibet, about 8,000 feet

913

S. tetrasperma, Roxb. (Fl. Ind., iii, 753.)

Vern.—Bed, bent, baishi, HIND.; Laila, bains, N.-W. INDIA; Bis, beis, bitsa, bin, bidu, bakshel, magsher, safedar, badha, PB.; Yir, KASHMIR; Bilsa, OUDH; Pani jama, BENG.; Bhesh, GARO; Nachal, KOL.; Chéur, KHARWAR; Bhi, Ass.; Wallunj, bacha, BOM.; Niranji, KAN.; Momakha, BURM.

A moderate sized deciduous tree found throughout India, on river banks and in moist places, and in the Himalayan valleys ascending to

Meartwood red, soft, porous, even-grained. Weight about 37 lbs. per cubic foot.

•	SALVA-
The wood is rarely used; it has been used for gunpowder charcoal; Mann says that in Assam it is used for posts and planks. The twigs are made into baskets.	DORA.
Ibs. Ibs.	•
Salix viminalis, Linn.	914
Vern.—Bitsu, PB.; Kumanta, LAHOUL. A shrub of the inner arid Himalaya from the Jhelum to Sikkim (S. Smithiana, Willd.), from 5,000 to 9,000 feet, cultivated in Lahoul, Dras and Kunawar. Common throughout Europe in osier beds. Wood white. H 143. Lahoul, about 9,000 feet.	• '
S. Wallichiana, And.	915
Vern.—Bwir, PB.; Bhains, bangli, katgúli, NW. P. A large shrub, met with in Afghanistan, Kashmir, Himalaya eastwards to Bhutan, ascending to 9,000 feet. Wood white or pinkish-white. Weight 32 lbs. per cubic foot. The branches are made into baskets.	7-3
lbs. H 2910. Nagkanda, Simla, 8,000 feet 32 H 3035. ,, ,, ,, ,,	_
SALVADORA.	
Salvadora oleoides, Linn., SALVADORACEÆ. Vern.—Kabbar, jhár, diár, mithidrár, SIND.; Jál, ván, váni, mithi van, PB.; Jhal, HIND.; Ughai, koku, TAM.; Pitu, MAR. A large evergreen shrub or tree of the arid zone, Sind, and Punjab, often forming the greærer part of the vegetation of the desert; ascends to	918
3,000 feet in the Trans-Indus hills and to 2,400 feet in the Salt Range. Wood light-red, moderately hard, with small, irregular, purple heart- wood. Weight about 54 lbs. per cubic foot. It is sometimes used for building and agricultural implements, Persian wheels, and the knee timbers of boats. Is a bad fuel, and leaves a great deal of ash. P 942. Multán (with heartwood)	
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SAMADERA. Samadera indica, Garrin., Simarubez. Verm.—Samadara, Cinob.; Kathai, Burm. A small eree of South India and Ceylon. Wood light-yellow, soft, no heartwood. Weight 26 lbs. per cubic food light. No. 76. Ceylon Collection		DORI-	,
Samadera indica, Gartin., Simarubeæ. Vern.—Samadara, Cinch.; Kathai, Burm. A small cree of South India and Ceylon. Wood light-yellow, soft, no heartwood. Weight 26 lbs. per cubic foology. Ibs. No. 76. Ceylon Collection	·	OM.	SAMADERA
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SAMARA. SAM		918	Vern.—Samadara, Cingh.; Kathai, Burm. A small cree of South India and Ceylon.
SAMARA. Samara robusta, Benth. & Hook. f., Myrsine. Syn.—Embelia robusta, Roxb. Vern.—Amti, ambat, barbatti, byebering, Bom.; Bebrang, Oudh Kopadalli, Gond.; Bharangeli, Kurku; Kalay bogoti, Nepal.; Aig mwaynway, Burm. A large shrub or small tree found in the sub-Himalayan tract from th Jumna eastwards, Bengal, Behar, Western India, and Burma. Wood reddish. Description of the North-East Himalaya, 3,000 to 6,000 feet. Vern.—Amilpati, Nepal. A climbing shrub of the North-East Himalaya, 3,000 to 6,000 feet. Wood yellowish-white, moderately hard. E 3302. Tukdah, Darjeeling, 5,000 feet. SAMBUCUS. Sambucus javanica, Reinw., Caprifoliace. Vern.—Galeni, Nepal. A small tree met with in the Eastern Himalaya, from 4,000 to 8,000 feet, and the Khásia Hills. Chiefly found in second growth forest. Wood white, soft. E 3133. Mangwa Forest, Darjeeling. 5,000 feet. SANDORICUM. Sandoricum indicum, Cav., Meliace. Vern.—Thitto, Burm. An evergreen tree of Burma, introduced in Southern India. Sapwood grey; heartwood red, moderately hard, close-grained, take: a beautiful polish. Weight about 36 lbs. per cubic foot. Used for carts and boat-building. lbs.			
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		•	-

Timbers SAPINDUS. SANTALUM. Santalum album, Linn., Santalace E. 923 Sandalwood. Vern. - Chandan, chandal, sandal, HIND.; Gandha, KAN.; San-ta-ku, A small evergreen tree found in the dry region of South India. It grows naturally in the drier parts of Mysore, Coimbafore, and Salem districts, extending south to Madura and north to Kolhapur, generally at an elevation of from 2,000 to 3,000 feet, in poor soils, and seeking the protection of hedgerows and scrub jungles. S. pwood white, scentless; heartwood yellowish-brown, strongly scented, very flard, very close-grained, and oily. Weight about 61.5 lbs per cubic foot. The heartwood is used for carving, for incense and perfume. It is an important article of trade in India, and is largely exported to China and Arabia. It has been found to be well suited for engraving. lbs. E 2489. Botanic Gardens, Calcutta (from a tree which was blown down in the Cyclone of 1864) 56 Mysore I) 120g. 71 D 2307. 60 D 3140. бо ,, D 1360. Salem, Madras бі No. 41. Salem Collection . 6т SAPINDUS. Sapindus attenuatus, Wall., SAPINDACEÆ. 024 Syn. - S. RUBER, Kurs.; SCYTALIA RUBRA, Roxb. Vern. - Achatta, Nepal; Sirhootungchir, Lepcha; Lal koi-pura, Sylhet. A shrub or small tree of the Eastern Himalaya, Assam, and Eastern Bengal, down to Chittagong. Wood white moderately hard. E 3272. Western Dúars. S. detergens, Roxb. 025 THE SOAPHUT OF NORTH INDIA. Syn, -S. MUKOROSSI, Gaertn. Vern.—Rithn, dodan, kanmar, HIND. A handsome deciduous tree, cultivated throughout North-West India and Bengal. Wood light yellow, rough, moderately hard, compact, and close-grain-Weight 44 lbs. per cubic foot. ed. It is not used. lbs. H 117. Waziri Rupi, Kulu, 4,000 feet H 3050. Kepu, Sutlej Valley, 2,000,

SASSA-FRAS.

026

Sapindus emarginatus, Vahl.

THE SOAPHUT TREE.

Syn. -S. TRIFOLIATUS, Linn.

Vern.—Ritha, Hind.; Bara-ritha, Beng.; Mukta maya, Uriya; Konkúdú, Tel.; Pounanga, puvandi, Tam.; Thalay marathu, antawála, Kan.; Areeta, Mal.; Puvella, Cingh.

A large tree met-with in Bengal, South India, and Ceylon, often cultivated

Wood yellow, hard. Weight about 64 lbs. per cubic foot.

It is sometimes used for building and carts.

D 3200. Cuddapah, Madras.

B 2259 (51 lbs.) is a white, moderately hard wood sentthe Major Ford from the Andamans in 1866; it perhaps keepings to this species.

SARACA.

927

ć

Saraca indica, Linn., Leguminosæ.

Syn.—JONESIA ASOSA, Roxb.

Vern.—Asok, HIND.; Asoka, BENG.; Aseka, ati, CUTTACK; Diyera tembela, CINGH.; Ashunkar, KAN; Jassundi, Bom.; Thaw-ka-hpo, BURM.

Found in Eastern Bengal, South India, Arracan, and Tenasserim. Wood light, reddish-brown, soft. Weight 50 lbs. per cubic foot.

No. 23. Ceylon Collection

lbs. 58

SARCOCOCCA.

(928

Sarcococca saligna, Lull. Arg., Euphorbiace E.

Vern.—Sukat sing, Kumaun; Chilikat, Nepal. A small evergreen shrub met with in Afghanistan, Himalaya at 4,000 to 7,000 feet, ascending in Sikkim to 9,000 feet, the Khásia Halls, Nilgiris, and Western Coast.

Wood white, moderately hard.

Sometimes used for walking-sticks.

H 2832. Simla, 7,000 feet.

SARCOSPERMA. -

020

Sarcosperma arborea, Hook. f., Sapotace R.

Sya. - SIDEROXYLON ARBOREUM, Ham.

Vern.—Pahar lampati, NEPAL; Kulyat ya, LEPCHA.

A large tree of the Eastern Himalaya.

Wood pink, moderately hard, rather light. Weight 30.5 lbs. per cubic

Used in Sikkim.to make canoes.

E 3316, Chenga orest, Darjeeling Terai, is probably this species.

SASSAFRAS.

930

Sassafras officinale, Nees., LAURINEÆ.

Wood soft, porous, highly scented, preserving its odour a long time. Pores large to small.

(Specimens wanted.)

Timbers.	PART VII
•	SCHLEI- CHERA.
Saurauja.	
Saurauja Griffithii, Dyer, TERNSTRŒMIACEÆ. Vern.—Gogen, NEPAL; Hlasipha, LEPCHA. A small tree, found in Sikkim and Assam.	931
S. nepalensis, PC. Vern.—Gogina, goganda, HIND.; Gogen, Nepal; Kasúr, Lepcha. A small tree of the outer Himalaya from the Jumna to Bhutan above 3,000 feet, and the Khásia Hills. Wood light-pink, very soft, spongy; shrinks much. Weight 25 lbs per cubic foot. E 2321. Tukdah, Darjeeling, 5,000 feet 25	1
SCHIMA.	• •
Schima Noronheæ, Rwdi., TENSTRŒMIACEÆ. Vern.—Panna, thitya, Burm. An evergreen tree, met with in the Tenasserim and Martaban Hills. Wood reddish-brown, moderately hard, close-grained. Weight 48 lbs. per cubic foot. B 299. Burma (1867)	933
Syn.—Gordonia integrifolia, Roxb., (Fl. Ind. ii. 572.) Vern—Chilauni, goechassi, Nepal; Makusa', Hind.; Sumbrong, Lepcha Gugera, Goalpara; Makriah thiluuni, makusal, Ass.; Dingan, Khasia; Boldak, Garo; Jam., Cachar. A large evergreen tree found in Northern and Eastern Bengal, and Chittagore ascending to 5,000 feet. Wood high, red, moderately hard, cross-grained, warps and shrinks much in asoning. Is durable in dry works when we'l ventilated. Weight about 45lbs, per cubic foot. It is used in Northern Bengal and Assam for many purposes, but chiefly for building. Many of the tea factories in Darjeeling have been built of it, and the Public Works Department have sometimes used it for bridges. Ma in states that in Assam it is used for planks and ordinary building purposes, and for canoes. As large quantities of the timber, well grown and straight, are available, it is to be hoped that it may be ere long in more extensive demand. E 491. Bamunpokri Forest, Darjeeling E 646. Khooklong Forest, Darjeeling Terai E 636. Eastern Dúars, Assam 42 E 1449 Mishmi Hills (Griffith, 1836) 50	
· SCHLEICHERA.	
Schleichera trijuga, Willd., SAFINDACE.E. Vern.—Kosum, gausam, Hind.; Rusam, Uriva; Pūskū, may, roatanga, Tel.; Puvū, pū, pulachi, solim-buriki, Tam.; Sagdi sagade, chakota, akota, Kan.; Chendala, Coorg; Puvatti, Kaders; Kasumar, konam, kacham, Panch Mehals; Baru, Kol; Kusumb, peduman, Mar.; Komur, pūskū, Gond; Baru, Kurku; Gyoben, Burm.; Cóng, conghas, Cingh. A large deciduous tree, of the sub-Himalayan tract from the Sutlej eastwards, Central and South India, and Burma.	935

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RC:	٥Ł	n.	7	Δ	•

936

937

	•						•
light reddish-br	nard, strong, and d own. Weight abo rice, and sugar n	out 70 l	bs. p	er cul	oic foo	t.	
and cares.	ť						lbs.
O 206,	Garhwal (1868)	•	•	•	•		65
O 536.	Dehra Dun	•		•	•	•	65
С 191.	Mandla, Central I	Provinc	es (1	870)	•		66
C 1110.	Ahiri Reserve, Ce	ntral F	rovi	nces	•		66
C 2769.	Melghát, Berar	•			•		62
W 732.	South Kanara		•	•			70
В 319.	Burma (1867)	•	•	•		٠,	35
B 2515.	,, (1862)	•	•		•	•	72
No. 47.	Ceylon Collection	•	•	•		•	57
C 3533.	Khurda Forests,	Orissa	•		•		65
•							
	SCHRI	EBEF	٦A.				
Schrebera swie	etenioides, Rixi	От. г	CACEZ	E.			
Vern.—Moka	. góki. ghant. gant	ha, Hir	id.: I	 Patali.	ghant	a ba	tali, BANDEL-
KHAND ;	, góki, ghant, gant, ; Jantia, URIYA; M ; BAIGAS; Karindi, , BHIL; Kalgante, Co	akkam,	mok	ob, TE	L.; M	onga	linga, TAM.;
Mokkak	, Buil; Kalgante, Co	oorg;	Thits	waylw	ay, Bu	RM.	in, Rukku.,
A deciduous	tree, met with in	Kum	aun,	Burm	a, Cei	ıtra	l and South
India. Wood brown	ish-grey, hard, clos	se-grain	red. 1	nolish	es wel	1 : d	lurable, does
not warp or split	t. No heartwood, l	but irro	gula	r mas	ses of	pur	ple or claret-
	n the centre, and so	cattere	d thr	ougho	ut the	tre	e. V. eight
56 lbs. per cubi Used for con	nbs, weavers' beam	s, and	turn	ing.	•		
				-			lbs.
•	Bairagarh Reserv	e, Bera	T	•	•	•	59
C 2772.	Melghát, Berar	· .	٠.		•	•	•••
C 193.	Mandla, Central				•	·	51
C 1108.	Ahiri Reserve, Ce	ntral P	rovir	ices	•	*	•••
C 1410.	Moharli "	"		•	•	•	•••
B 1413.	Burma .	•	•	•	•	•	59
В 3149.	" (1862)	•	•	•	•	•	54
					•		
	SCOL	.OPI	A.				
Scolopia rkina Verp.—	nthera, Clos., B	(XINEÆ	•				•
A tree of Ma	lacca, Java, and B	orneo.					
Has a hard	red wood, with a	structu	re sin	nilar t	o tha	t of	Flacourtia.
Weight 60 lbs. 1	per cubic foot.						lb.
В тобо.	Andamans (Kurs	. 1866)					60
1 2 . 309.	(Specimens and in			onanta	d.)	٠	

•	SEMECAR- PUS-
SECURINEGA.	
Securinega Leucopyrus, Müll. Arg., Euphorbiace. Syn.—Phyllanthus Leucopyrus, Roxb.; Cicca Leucopyrus, Kurs.	938
Vern.—Pera pastawane, Afg.; Kakún, rithei, girthan, gargas, bháthi, bata, vanúthi, girk, PB.; Hartho, aintha, N. W. P.; Kiran, SIND; Challa mauta, sále manta, C. P.; Achal, NEPAL.	•
A large shrub or small tree of the outer Himalaya, ascending to 5,000 feet, throughout India and Burma. Wood pink, hard, close-grained. It is only used as fuel.	
E 3319. Pankabari, Darjeeling, 2,000 feet.	
S. obovata, Müll. Arg.	•939
Syn.—PHYLLANTHUS RETUSUS and VIROSUS, Roxb.; CICCA OBOVATA, Kurs. Vern.—Dalme, dhúni, bakarcha, ghari, gwala, darim, HIND.; Iktibi, LFPCHA; Ukieng, thaka, MECHI; Kodarsi, MAR.; Korchi, GOND; Yae-chinya, Burm.	939
A small tree found in the Sulaiman Range, sub-Himalayan tract and outer Himalaya, ascending to 5,000 feet, Eastern Bengal, Central and South India, and Burma.	•
Wood reddish-yellow close-grained, durable. Weight 52 lbs. per	
Cubic foot. Used for agricultural implements.	
H 2941. Jander, Sutlej Valley, 3,000 feet 52	
Р 3247. Ајтеге	· •
SEMECARPUS	
Semecarpus Anacardium, <i>Linn.</i> , f., Anacardiaceæ. The Marking Nut Tree.	940
Vern.—Bhilawa bheyla, HIND.; Bhalai, NEPAL; Bhila, bkclatuki, BENG.; Bhallia, URIYA; Kongki, LEPCHA.; Loso, Kol.; Bhilwa, BAIGAS; Banarw, GARO; Kohka, biba, GOND; Shaing, shayrang. TAM.; Jiri, jidi, pella-fedi, Tel.; Gheru, kari ghera, KAN.; Bibwa, bibu, MAR.; Chyai beng, BURM.	
ascending to 3,500 feet; forests of India, extending to Chittagong but not to Burma.	
Wood grevish-brown, often with yellow streaks, soft. It contains an acrid juice which causes swelling and irritation, and timber-cutters object to felling it. Weight 42 lbs per cubic foot.	
It is sometimes used for charcoal.	
Ibs.	
C 1157. Ahiri Reserve, Central Provinces 44 C 2746. Moharli , , , 40	
E 578. Kookloong Forest, Darjeeling Terai • 39	
E 627. Bamunpokri ,, , , 30	
E 2341. " " " 33	
227	

SHORE	·
	SESBANIA.
941	Syn.—ÆSCHYNOMENE SESBAN, Roxb. Vern.—Jait, jhijan, janjhan, dhandidin, HIND.; Jayanti, Beng.; Saor sewri, Berrar; Shewari, Deccan; Suiminta, Tel.; Yaythagyee, Burm. A soft-wooded tree, 10 to 12 feet high, cultivated in many parts of India and Burma; wild in tropical Africa. It is commonly planted in Bengal as a hedge-plant, for which purpose its very quick growth renders it suitable. It is also sometimes grown to support the plantations of the betel pepper. Wood white, extremely soft. Not durable. Weight 27 lb. per cubic foot. It is used to boil jaggery. Grown in Berar and the Deccan to furnish poles as a substitute for bamboo. Roxburgh says the wood is said to make the best gunpowder charcoal, and Kurz that it is good for children's toys.
	C 870. Amraoti, Berar
942	Syn.—ÆSCHYNOMENE GRANDÎFLORA, Roxb. Vern.—Basna, Hind.; Buka, bak, agasta, Beng.; Bagfal, Sundarbans; Hadga, heta, Berak; Agati, Tam.; Avesi, Tel.; Agase, Kan.; Poukpan, pouktyoo, Burm.
	A short-lived, soft-wooded tree, cultivated in Southern India, Burma, and in the Ganges Doab, attaining 20 to 30 feet in height. Wood white, soft, not durable. Weight 32 lbs. per cubic foot. In Lower Bengal it is used for posts for native houses and for firewood (Home); in Berar and the Dekkan it is grown as a substitute for bamboo. C 871. Amraoti, Berar
	C 6/1. Amraou, Berai
~ ~~.	SHOREA.
943	Shorea gratissima, Dyer, DIPTEROCARPEÆ. Syn.—HOPEA GRATISSIMA, Wall. Vern.— Found in Tenasserim and Singapore.
	Wood generally cross-grained. Heartwood brown, hard, or very hard.
944	S. obtusa, Wall. Vern.—Thitya, Burm. A large tree of the Eng forests of Burma. Heartwood the colour of sâl, very hard and durable. The wood of this tree is, more even-grained than that of either sâl or engyin. Weight about 67 lbs. per cubic foot. The wood is much valued on account of its durability; it is used for canoes and in building, and is valuable for tool-handles and planes.
	B 555. Prome, Burma

SHOREA

945

Shorea robusta, Gaerin.

THE SAL TREE.

Vern.—Sál, sála, salwa, sákhu, sakher, Hind.; Sarjum, Kol.; Sargi, Bhumij; Sakwa, Kharwar; Sekwa, Oraon; Shal, Beng.; Sakwa, Nepal; Teturl, Lepcha; Bolsal, Garo; Salwa, soringhi, Uriya; Koroh, Oudh; Sarei, rinjal, C. P.; Gúgal, Tel.

A large gregarious tree, never quite leafless, of the north-east moist and intermediate zones: sub-Himalayan tract, from the Beas to Assam, eastern part of Central India, from the Ganges to the Godaveri, extending westward to the longitude of Mandla, with an outlying patch on and

around the sandstone hills of the Pachmari Range.

Sapwood small, whiteish, not durable. Heartwood brown, finely streaked with dark lines; coarse-grained, hard, with a remarkably fibrous and coss-grained structure; the fibres of successive concentric strata in the wood do not run parallel but at oblique angles to each other, so that when the wood is dressed the fibres appear interfaced; does not season well. The inherent qualities of sal render it a very difficult wood to season; it warps and splits in drying, and even when thoroughly seasoned it absorbs moisture with avidity in wet weather, increasing 1-24th in bulk, and correspondingly in weight. During the process of seasoning it dries with great rapidity on the surface, while beneath it remains as wet as when first cut, and evaporation goes on afterwards with extreme slowness. The effect of this peculiarity is to cover the surface all over with superficial flaws from unequal shrinkage. With proper precautions, however, it can be made to dry slowly, and under these circumstances it has been found by numerous experiments that the ratio of drying is \ of an inch annually all round the piece of wood. Sal, when once thoroughly seasoned, stands almost without a rival, as a timber, for strength, elasticity, and durability, which qualities it retains without being sensibly affected, for an immense length of time. Average weight of the seasoned sal, about 55 lbs. per cubic foot.

Sâl is the timber which in Northern India is the most extensively used. It is in constant request for piles, beams, planking and railing of bridges; for beams, door and window-posts of houses; for gun-carriages; the body of carts (not the wheels, for which it is unsuited and for which sissú or even saj is better); and above all for railway sleepers, the yearly consumption of which reaches some lakhs of cubic feet. It is used for making canoes in the hills of Northern Bengal, where it is found, perhaps, of the largest size now available.

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Ċ	1235.	Gumsi			-,	•	•	•	•	49
Ē		Culena	LT:	D:-	1!	•	·	•	•	64
E	497•	Sukna	Tills,	Darje	enng,	1,500	reet	•	•	58
Ë	702.	Tista '	valley	_	99	,,	99		•	64
E	2322.	Darjee	ling T	erai			•			54
E	3137.	Buxa l	Reserve	e, We	stern	Dúar:	5			62
E	3138.	••		· .				•	_	61
E	635.	Easter	n Ďúai	rs. As	sam	,,,		-	•	
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IOREA.				r							
946	Shorea si	amer	isis, Miq.								
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			luous tree foun ery hard, very							this re	spect
,			vhich it also								
	per cubic f	foot.	æ'					_		-	
	The w	ood is	much prized	on a	ccoun	t of its	s dur	ability	. 1	t is use	d tor
	nouse-buil	ung, i	oows and other	pur	oses.					lbs.	
	В	2507.	Burma (1862)							48	
			Kya-eng, Atta	ıran İ	Vallev	Bur	ma		•	69	
•			Prome, Burma		· uncy	,		•	•	₩ _€	
		29/2.	rome, Durm		•	•	•	•	•	HO.	
947	S. stellata	, Dye	r.								
			ASHOREA STELL	ATA, .	Kurs (i, 117.))				
	Vern	n.— <i>Kot</i>	ungmhoo, Burm	•							
	A very	large	evergreen tree	of I	3urma	•	. 11				
			hard, rough. canoes and in				o ids.	per c	uDic	; 100t.	
	11.15 4.5	,	canocs and m	,	- Duna					lbs.	
	В	044.	Tavoy, Burma	L						47	
			Tenasserim							50	
_		-40		•	•	•	•	•	•	J-	
948	S. Talura	, Rox	·b.								
•			ACCIFERA, Hey								
•			lura, talári, TAI								
6.5	A larg	e tree,	met with in M very to extrem	elv h	e and ard, si	me ea	. with	i distri i smal	cts Id.	or Mac ark-colo	ıras. Sıred
	irregularly	y-shape	ed heartwood.	We	ight a	bout :	70 lbs	oper o	cub	c foot.	
			used for hous	e-bui	lding,	and	is la	rgely	se	nt dow	n to
	Madras fo	or that	purpose.							lbs.	
	D	1056	South Arcot	_				_		70	
Barby,	l .	-	Madura	•	•	•	•	•	•	65	
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	D 109	2 has	a smooth, yel	low,	even-	graine	ed w	rod, v	vt.il	e D ro	56 is
	identical.	a uai	k brownish-red	ı iica	LWOOL	ı, Dui	tile :	5tt th. 0.	.10	or the t	WO 15
	100000										
949	S. Tumbi	ıggai	a, Roxb.								
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			of the interme			outh (dry z	ones.	Cu	ddapah	and
	North Ar	cot dis	tricts.							•	
			th, harder the			sâl,	but	simila	r i	n struc	ture.
	vveight al	oout oo sed for	3 lbs, per cubic r house-buildi:	ioot ig. n	articul	larlv	for d	loor-fr	am-	s and n	otte
	and for ra	fters.		-6, L	,	-				- and p	,00139
										lbs.	
•	, ,		Cuddapah	•	•	•	•	•	•	66	
	(D	1078.	North Arcot	•	•		•	•	•	68	

- 1000/3	
•	SOÝMIDA.
skimmia.	
Skimmia Laureola, Hook., RUTACEE. Vern.—Ner, barru, PB.; Nehar, gurl pata, Kumaun; Chumlani, Nepal Timbitunyok, Lepcha. An extremely aromatic shrub, found in the Himalaya from the Indus to Bhutan, from 5,000 to 11,000 feet, and in Afghanistan. Wood white, soft, with distinct, white, concentric lines which may possibly be annual rings; has an aromatic scent when fresh cut. Weight 42 lbs. per cubic foot. H 2846. Mahasu, Simla, 8,000 feet E 2330. Tukdah, Darjeeling, 5,000 feet E 2293. Mahalderam, Darjeeling, 7,000 feet Mahasu, Simla, 8,000 feet Mahasu, Simla, 8,000 feet Mahasu, Simla, 8,000 feet Mahasu, Simla, 8,000 feet Mahasu, Simla, 8,000 feet Mahasu, Simla, 8,000 feet Mahasu, Simla, 8,000 feet	
SOLANUM.	•
Solanum verbascifolium, Linn., Solanace E. Vern.—Dursul, Nepal; Sivor, Lepcha. A small tree or large shrub of Northern and Eastern Bengal, and Burma. Wood yellow, soft.	951
SONNERATIA.	
Vern.—Orcha, archaká, Beng.; Tajoo, tamov., Burm. A small evergreen tree, met with in the tidal creeks and littoral forests of India, Burma, and the Andamans. Wood prey, soft, even-grained. Weight 31 lbs. per cubic foot. It is said by Beddome to be used for models, and in Ceylon to be a good substitute for coal in steamers. E 395. Sundarbans	
B 3379. Kyoukphyoo, Arracan	
E 3699. Sundarbans (1882) 40	
SOYMIDA.	
Soymida febrifuga, Adr. Juss., Meliaceæ. Indian Red Wood. Syn.—Swietenia febrifuga, Willd. Vern.—Rohan, Hind.; Rohina, Beng.; Shem, wond, Tam.; Sumi Tel.; Sohan, suam, Uriya; Soimi, Gond; Royta, Lihil. A large deciduous tree of Central India and Dekkan.	954

G.AKI VII	Economic Products of India.
SPONDIAS.	
	Sapwood small, whiteish; heartwood extremely hard and close-grain ed, reddish-black, very durable; free from attack of white-ants. Weight about 76 lbs. per cubic foot. Used for construction, well-work, plough-shares, and oil-mills.
	C 194. Mandla, Central Provinces, 1871
	SPATHOLOBUS.
955	Spatholobus Roxburghii, Bth., Leguminosæ. Syn.—Butea parviflora, Roxb. Vern.—Mala, mulu, maula, Hind.; Debrelara, Nepal; Tetrobrik, Lepcha; Pouknway, Burm.
	A gigantic creeper of the sub-Himalayan tract from the Jamna eastward to Bengal and Burma. E 480. Darjeeling
•	SPIRÆA
256	Spiræa canescens, Don., Rosacem.
956	Vern.—Chaku, taku, Simla. "A shrub, 6 feet, with densely leafy brandes." (Hk. Fl. Br. Ind.) Found in the North-West Himalaya, from Murree to Kumaun, chiefly on open hill-sides as a stiff bush. Wood hard, close and even-grained.
	H 159. Simla, 7,000 feet
957	S. sorbifolia, Linn. Syn.—S. LINDLEYANA, DC. Vern.—Sarbashtai, kikri, batu, PB. A shrub of the North-West Himalaya, from the Sutirj to Kumaun above 7,000 feet. Chiefly found in shady, damp woods. Wood hard, compact, even-grained. Annual ringswissinctly marked by a belt of more numerous pores. H 82. Simla, 7,000 feet H 3014. Hattu Forest, Simla, 8,000 feet
	SPONDIAS.
958	Spondias mangifera, Pers., Anacardiaceæ. The Hog Plum.
	Vern.—Amra, amara, ambodha, HIND.; Amara, NEPAL, ASS.; Amna, BENG.; Ronchiling, LEPCHA; Adai, tongrong, GARO; Kat máa, TAM.; Aravi mamádi, amatum, TEL.; Kat ambolam, MAL.; Amb, MAR.; Amte, KŠN.; Hamára, GOND; Ambera, KURKU; Puli ille, KADERS; Gway, BURM.
• '	A deciduous thee of the sub-Himalayan tract, ascending to 3,000 feet in Sikkim; dry forests of South India and Burma; rare in Central India.
	. 232

. 232

2 1/11/00#3;	- 1 781 71
Wheel and that many Whiches about to the new public fact	STAPHY- LEA.
Wood soft, light-grey. Weight, about 43 lbs. per cubic foot.	ļ
C 2800. Melghát, Berar	
E 499 Kookloong Forest, Darjeeling Terai 30	
E 1296 Cachar (Vern. Túndúr) 21	
E 1497. Sylhet (Vern. Sutrung) 25	1
B 560. Burma	
SPONIA.	
Sponia orientalis, Planchon, URTICACEE.	959
Indian Nettle Tree.	
Syn.—Celiis orientalis, Linn.; Trema orientalis, Bl.; S. Wightii, Planch.; S. amboinensis, Done.	
Vern.—Badu manu, C. P.; Kooail, Nepal; Tugla, Lepcha; Param, Michi; Jupone, phakram, jigini, sapone, sempak, amphak, opang (See Agri-Horticultural Society of India Proceedings for November 1877), ASS.; Rarunga, Kol.; Mini, TAM.; Gada-nelli, Tel.; Gorklu, Kan.; Gol, Mar.; Rukni, Balgas.	
A small fast-growing and short-lived tree of Himalaya from Nepal	
castwards, Bengal, Burma, Central and Southern India. Wood light reddish-grey, soft. Weight 28 lbs. per cubic foot.	1
It is used for charcoal, which is good for gunpowder manu-	
facture.	l
E 2446. Sivoke, Darjeeling Terai 28	
n tu tana	
S. politoria, Planch. Vers.—Bantamman, kanglu, khúri, PB.; Júún, khasaroa, márni, bátu, banharria, HIND.; Kháoi, kháki, kooail, Nepal; Tuksat, Lepcha.	960
A small evergreen tree, met with in the Salt Range, outer Himalaya, Oudh, Sikkim.	
Wood white, moderately hard, splits and cracks in seasoning. Weight 36 lbs. per cubic foot.	
Wood and bark used in a similar way to those of S. Orientalis.	
lbs.]
O 1,69. Gonda, Oudh	
~ ·	
STAPHYLEA,	1
Staphylea Emodi, Wall., Sapindacer.	26-
Vern.—Marchob (Serpent Stick) Arg · Nagdayn chitra chial ham	961
bakhru, ban-shagali, guldar, kaghania, Hind. A large shrub or small tree of the North-West Himalaya, above	ļ
0.000 feet	
Wood soft, grey. Weight 44 lbs. per cubic foot.	ļ
Sticks are made of the wood which are sold in the hill bazars. They	
are supposed by the Afghans and frontier tribes to have the property of	1
keeping off snakes.	
lbs. H 2000. Nagkanda, Simla, 8,000 feet	۱.
- · · · · · · · · · · · · · · · · · · ·	•
	1
² 33 .	
•	

STERCU- LIA.		
	STEPHEGYNE.	
962	Stephegyne parvifolia, Hook. f. & Bih., Rubiace E.	
	Syn.—Nauclea parvifolia, Roxb.	
•	Vern.—Kaddam, kallam, keim, kangei, HIND.; I haldu, KUMAI	IN
	Munai, GOND, SAIGAS; Kuteoi, Kurku; Buta-kadamoe, IAM.; A kadambe. karmi. bataganabu. Tel.: Congú. hedu. vetega, kad	war
	Vern.—Kaddam, kallam, keim, kangei, Hind.; I haldu, Kumat Mundi, Gond, Baigas; Kutebi, Kurku; Buta-kadambe, Tam.; I kadambe, karmi, bataganapu, Tel.; Congú, hedu, yetega, kad kadani, Kan.; Kadamb, karamb, kalam, Mar.; Tamák, Bhil; G kómba, Kol.; Guri, gurikaram, Kharwar; Helembé, Cingh.; Kum Banswara; Hteinthay, Burm.	ìui, ıra
	BANSVARA; Hteinthay, BURM.	•
	A large deciduous tree found throughout India and Burma.	
	Wood light pinkish-brown, moderately hard, generally harder that of Adina Cordifolia. No heartwood. Weight about 47 Jb.: F	er
•	cubic foot.	_
£1. 4	It is easily worked and polishes well; it is durable, if not exposed wet.	l to
	It is used for building, furniture, agricultural implements, com cups, spoons, and platters, and for turned and carved articles.	bs,
•	lbs.	
	P 458. Ajmere	
	O 269. Garhwal (1868) 45	
•	O 529. Dehra Dun 41	
	O 344. Gorakhpur	
	C 178. Mandla, Central Provinces (1870)	
	C -00	
	C 180. " " " 40 C 1120. Ahiri Reserve, Central Provinces 44	
•	C 2783. Melghát, Berar 44	
···	B 561. Prome	
	B 2539. Burma (1862)	
	No. 36. Salem Collection 44	
	No. 35. Ceylon Collection 42	
	C 824. Bairagarh Reserve, Berar	
~963	S. Sp., Gamble.	
J -0	Vern.—Kalé, kalikat, Nepal.	
	A large tree.	
	Heartwood orange-yellow, sapwood reddish. Wood-moderately ha	rd.
	Weight 44 lbs. per cubic foot.	
	It is used for building.	
	E 2385. Chenga Forest, Darjeeling 44	
	2 25050 00001,52 2 00001,5 00001,5 00001	
	STERCULIA.	
964	Sterculia coccinea, Roxb., STERCULIACE.	
•	Vern.—Sitto udal, NEPAL; Katior, LEPCHA.	
	A small evergreen tree of the Eastern Himalaya, ascending to 6,6	000
	feet: Assam, Khásia Hills, hills of Burma.	
	Wood grey, spongy, extremely soft. Weight 17 lbs. per cubic for	ot.
	lbs.	
	E 573. Khooklong Forest, Darjeeling Terai 17	

	STERCU LIA.
terculia colorata, Roxb.	965
Vern.—Bodula, walena, samarri, HIND.; Moola, BENG.; Sitto udal, phirphiri, omra, NEPAL; Kanhlyem, LEPCHA; Pisi, KOL.; Lersima, KHARWAR; Bolasong, GARO; Khowsey, pinj, BERAR; Bhái-koi, BOM.;	
Karaki, Tel.; Wet-shaw, Burm.; Berdú, And. A moderate sized tree of the sub-Himalayan tract from the Jumna	
castwards, Central and South India, Burma, and the Andaman Islands. Wood grey, very soft. Weight 24 lbs. per cubic foot.	
• lbs.	j
E 1394. Chittagong 24	
fœtida, Linn.	966
Pero, — Jangali-badam, HIND.; Pinári, TAM.; Gurapu badam, Tel.; Hlyanpyoo, letkop, Burm.	
A large evergreen tree of South India and Rurma. Wood grey, soft, spongy, but harder and firmer than that of S. Villosa, which it resembles in structure and appearance.	•
bs.	1
E 3708. R. B. Gardens, Calcutta (1881) 29	1
- (, · · · · · · · · · · · · · · · · ·	İ
urens, Roxb.	967
Vern.—Gúlú, kúlú, gular, tabsi, tanuku, karrai, HIND.; Odla, hatchanda,	
Ass.; Keonge, Manhium; Feley, Kol.; Kanainji, Monghyr; Tabsu, Tel.; Vellay pútali, Tam.; Hittúm, pinoh, Gond; Takli, Kurku; Karai, kandol, gwira, Mar.; Kalru, Ajmere; Kalauri, Panch Mehals.	
A large deciduous tree of the sub-Himalayan tract from the Ganges	١.
eastwards, Southern India and Burma.	•
Wood very soft, reddish-brown with an unpleasant smell, with lighter-tsloured sapwood. Weight about 42 lbs. per cubic foot.	
It is used to make native guitars and toys.	
• Inc.	
P 471. Ajmere	1
P 471. Ajmere	(
P 471. Ajmere	
P 471. Ajmere	068
P 471. Ajmere	968
P 471. Ajmere	968
P 471. Ajmere	968

STÉREOS-PERMUM. STEREOSPERMUM. 969 Stereospermum chelonoides, DC., Bignoniace.m. Syn.-BIGNONIA CHELONOIDES, Linn. Vern. Pader, padri, parral, Hind.; Parari, Nepal I Singyen, Lepcha; Sirpang, Mechi; Bolsel, Garo; Kandior, Kol..; Pandair, Lohardug-Ga; Pandri, Kharwar; Parolli, Ass.; Pareya-auwal, Cachar; Dharmara, atcapali, Beng.; Tsaingtsa, Magh.; Padri, pon-padira, pathiri, vela-padri, Tam.; Tagada, thágu, kala gorú, moka-yapa, pisúl, Tel.; Taitu, Berar; Pamphunia, Uriya; Kirsel, tuatuka, pádul, Mar.; Padurni, Bhil.; Nai-udi, mallali, Coorg.; Kall-udi, Kan.; Lúnúmadala, Cingh.; Thakooppo, Burm. A large deciduous tree met with in Bengal, Burma, Central and South India. Wood hard, grey, no heartwood; moderately durable, elastic, and easy to work. Weight about 48 lbs. per cubic foot. It is used for building, and is good for furniture. It is also used for canoes and building in Assam, and for tea-boxes in Cachar. lbs. 40 C 1164. Ahiri Reserve, Central Provinces CCCE 1172. 38 Moharli,, 46 1411. 833. Bairagarh Reserve, Berar Khookloong Forest, Darjeeling Terai 659. 51 48 Bamunpokri Forest 673. 632. Eastern Dúars, Assam 40 E 1398. Chittagong . 59 D 1070. North Arcot 50 B 2546. Burma (1862) 52 Е 3603. Darjeeling . 970 S. fimbriatum, DC. Vern. - Thanthat, BURM. A deciduous tree of Martaban and Tenasserim in Burma. Heartwood small, dark brown; sapwood light brown; wood very hard; in structure similar to that of S. suaveoiens. Weight 54 lbs. per lbs. B 2606. Tavoy (Wallich, 1828) 54 **97**I S. sp.? Found in Chittagong, the Andamans, and Anamadi Hills. Wood rough, yellowish-grey, moderately hard, in structure resembling S. suaveolens. 719. Chittagong 52 D 1284. Anamalai 54 B 2335. Andamans 52 56 B 2234. Ditto S. suaveolens, DC: 972 Syn.—BIGNONIA SUAVEOLENS, Roxb. Vern.—Paral, padal, padiála, padaria, parur, Hind.; Pandri, C. P.; Phalgataítu, Melghat; Parari, Nepal; Singyen, Lepcha; Kandior, Kol.; Pandri, Kharwar; Parúl, Beng.; Patúli, Uriya; Padri, Tam.; Kala-goru, kuberakashi, padari, patali, Tel; Hooday, billa, Kan.; Unt katar, padar, Gond; Padar, Kurku; Pandan, Bhil; Parúl, kalagori, Mar.

A large deciduous tree of the sub-Himalayan tract from the Jhe-

236 (

	2 1/11007 31		•	[- 48.
	•	•		STREBLUS
lum eastwards, ascending	toe 4.000 feet.	Bengal Burn	na. Central and	.)
South India.				1
Sapwood large, grey,	hard. • Heartw	vood small, y	ellowish-brown,	,
beautifully mottled with da	rker streaks, ve	ry hard, seaso	ns and polishes	
well. Woodis tairly durable per cubic foot.	le, and easy to	work. Weig	nt about 46 lbs.	•
It is much valued for	building, and m	akes excellent	charcoal.	
		••	lbs.	
O 243. Garhwal (18	68)		41	
O 341. Gorakhpur (1868) .		49	
C 197. Mandla, Cer	ntral Provinces	(1869)	40	
C 1114. Ahiri Reserv C 2745. Moharli "	ve, Central Prov	inces	46 50	İ
C 832. Bairagarh F	Reserve, Berar	• : :	50	ł
E 1959, Chittagong	• •		 51	
B 307. Burma (1867	[,])		44	
O 1378. Gonda, Oud	ih		•••	•
Stereospermum xylocarp	um. Bih. & I	Took. f.		973
Syn.—Spathodea xyloc			CARPA Rock	7,5
VernKharsing, bersin	ge, MAR.: Fai-n	angal, sondar-	badal. Mandia :	
Vern.—Kharsing, bersin Dhóta mara, dhotte, C	ond; Teto, Kuri	KU; Vadencarn	ı, Tam.; Ghan-	
sing, KAN. A deciduous tree met	with in the Sat	numa Danna	 	
South India.	vitii iii tile Sat	pura Kange,	Knandelsh and	
Sapwood large, grey; h	eartwood very	hard, brown.	Wood tough	
and clastic, close-grained.	Weight 47 lbs.	per cubic foot	•	
Used for cabinet work.	•		11 -	
C 2810. Melghát, Be	rar (sapwood)		lbs.	
C 958. Guzerat	· · · · ·	• • •	36 47	•
W 996. Sahyádri Gh	iáts, Ahmednag	ar .	47	· •
	atore (1883.)			
		•		
ST	RANVÆSIA	۸.		
Stranvæsia glaucescens, i	Lindl., Rosace	Æ.		974 -
Vern.—Garmehal, súnd, l				
A smal evergreen tree	of the Centra	l Himalaya,	Kumaun, and	
Garhwal, from 3 700 to 8,000	ieet, Nepal, an	d Khásia Hill	s.	
Wood light-coloured whe posure, fine and even-grain	n iresn cut, tu	rning reddish	-brown on ex-	1
Weight 48 lbs per cubic foot	eu, annuai im	gs marked b	y a thin nine.	
•			lbs.	1
H 2870. Naini Tal, 6	,000 feet .	• • •	48	
:	TREBLUS.			
•		•		
Streblus asper, Lour., Urt	ICACEÆ.		•	975
Syn.—Trophis aspera,	Rets.		-	1
Vern Jindi, Ph.; Ston Sahada, URIYA; Baran	a, karchanua,	rusa, HIND.;	Sheora, BENG.;	
Sahada, URIYA; Baran Kurasni, Gond.; Mitli, nittúl, Cingh.	Ki, baringa, pakki, KAN.; Ungnai,	MAGH; Opnai	Rnaraoli, MAR., Burm.; Gatiao	
A small evergreen tree of	the sub-Hima	layan tract f	rom the Beas	•

STYRAX.

eastwards, Bengal, Central and South India, Burma, and the Andaman Islands.

Wood white, moderately hard, no heartwood, no annual rings; tough

and elastic. Weight about 75 lbs.

In South India it is sometimes used for cart-wheels. It is good for hedges, coppices well, and has been recommended for fuel. The twigs are used as tooth-brushes, and the rough leaves to polish wood and ivory.

O 1478. Gonda, Oudh 40 C 1165. Ahiri Reserve, Central Provinces . . 39

STRYCHNOS.

976 Strychnos Nux-vomica, Linn., LOGANIACEÆ.

THE SNAKE WOOD, NUX-VOMICA OF STRYCHNINE TREE.

Vern.—Kuchla, kajra, Hind.; Kuchila, Beng.; Kuchila, kerra, korra, Uriya; Yetti, Tam.; Mushti, musadi, Tel.; Kasaraka, kujarra, khasca, kasaragadde, Kan.; Kara, jhar katchura, Mar.; Kumjaram, Travancore; Goda kaduru, Cingh.; Khaboung, Burm.

A moderate sized evergreen tree of Bengal, Burma, and South India. Wood brownish-grey, hard, close-grained, splits and warps. Weight about 57 lbs. per cubic foot.

It is used in Burma for carts, agricultural implements, and fancy cabinet-work.

									ADS.
		North Ka	anar a						65
		South	"	•	•	•	•	•	59
		Burma (<u> </u>	•	•	•		49
Ĕ		Khurda l	Forests,	Orissa	•	•		•	63
C	3538.	"	,,	,,		•			54

477

S. potatorum, Linn. fil.

THE CLEARING NUT TREE.

Vern.—Nirmali, nelmal, HIND.; Kotaku, URIYA; Ustumri, GOND; Tettancottai, tettian, TAM.; Chilla, indupa, induga, katakamu, judapa, TEL.; Nirmali, chilbinj, MAR.; Ustumri, GOND; Tettam-parel, MAL.; Chiltu, KAN.; Ingini, CINGH.

A moderate sized evergreen tree of Bengal, Central and South India. Wood white when fresh cut, turning yellowish-grey on exposure, hard, close-grained, seasons well. No heartwood; durable. Weight 57 lbs. per cubic foot.

Jsed for but	lding, carts, and agriculti	ıral	ımpler	nenas.	lbs.
C 1101.	Ahiri Reserve, Central F	rov	inces		55
C 2979.	Bijeragogarh, Central Pi	rovii	nces		
	South Arcot				61
No. 44.	Salem Collection .				56
C 3500.	Khurda Forests, Orissa				

STYRAX.

978

Styrax Hookeri, Clarke, STYRACEE.

Vern.—Chamokung, LEPCHA.

A small tree of Eastern Bengal, Sikkim, and Bhootan, not uncommon at 6,000 to 7,000 feet altitude.

Wood white, close-grained, moderately hard.

•E 3320. Darjeeling, 6,500 feet.

SYMPLO COS. Styrax serrulatum, Roxb. . 979 Vern .- Chamokung, LEPCHA. "A small evergreen tree of Eastern India; altitude 8,000 to 7,000 feet, frequent from Nipal and Bhootan to Pegu and Penang. Wood whileish, rather soft, but not liable to warp or split. Used by Blutias for prayer poles. E 3372. Darieeling, 6,000 feet. SWIETENIA. Swietenia Mahagoni, Linn., Meliace E. 080 THE MAHOGANY TREE. A large evergreen tree of Jamaica and Central America. Cultivated in Bengal, and as far north as Saharanpur. The tree was introduced into the Botanic Gardens at Calcutta in 1795 (plants from the West Indies), and although it was largely propagated by layers, no further new introductions were probably made until 1865, when about 8,000 seeds were sown in Calcutta by Dr. T. Anderson. A number of these seeds did not succeed, but in the end 460 plants were procured, three-fourths of which were planted in the Mohurgong Forest in the Darjeeling Terai, and the remainder at Calcutta. The plantation at Mohurgong was a failure, but the growth of mahogany at the Calcutta Botanic Gardens, and at other places in Bengal to which it was distri-buted, has been very satisfactory. The experiment is now being continued, both in Bengal and in Burma, and in time it may be hoped that the tree will be cultivated successfully as an adjunct to teak. On account of its rapid growth, and the great value of its wood, the tree should be grown whenever practicable in the tropical regions of India. In the Calcutta market it fetches from $6\frac{1}{2}$ to 8 annas per superficial foot of planking one inch thick; and in London from 4d. to 1s. 6d. Heartwood reddish-brown, seasons and works well, hard. Weight about 53 lbs. per cubic foot. In Europe the wood is, perhaps, used more extensively than any other for furniture; it is also used in ship-building. lbs. E. 1361. Calcutta Botanic Gardens 45 SWINTONIA. Swintonia Schwenckii, Teysm. & Binnend, Anacardiace E. 081 Vern .- Boilam, boilsur, BENG.; Sambung, sanginphroo, MAGH; Shibiku, CHAKMA; Thayet san, BURM. A very large tree of the Eastern Peninsula from Chittagong southward, and especially in Chittagong. Wood is sometimes used for boats, and is said by Major Lewin to last better than other woods in salt-water. E 1964. Chittagong SYMPLOCOS. Symplocos cratægoides, Hamilton, Styrace E. 982 Vern.—Lú, lándwar, loj, losh, Pr.; Lodh, Kumaun; Loja, Sutlej. A large shrub or small tree of Himalaya from the Indus to Assam,

between 3,000 and 8,000 feet, the Khásia Hills and Hills of Martaban.

	70 V 7	, , , , , , , , , , , , , , , , , , ,
	ERNÆ:	l l
MUI	NTANA.	Wood white, hard, close-grained, durable, splits and twists in seasoning. Weight 54 lbs. per cubic foot. Has been recommended for turning, and would do for carvings, if
	,	properly seasoned.
	•	H 54. Nagkanda, Simla, 7,000 feet
	983	Symplocos lucida, Wall.
	,- 3	Vern.—Kharani, Nepal; Chashing, Bhutia. A small evergreen tree, met with in the Sikkim Himalaya and hills of Martaban. Wood white, soft. Weight 36 lbs. per cubic foot. Used for fuel and rough house-posts.
~/	•	E 2390. Rangbúl Forest, Darjeeling 36
	984	
r	уод	S. phyllocalyx, Clarke: Hook., Fl. Ind., iii, 575. Vern.—Lal chandan, Nepal. Wood white, soft, close-grained, with vertical streaks of bright red colour. The red wood, which is most abundant in the root, is pounded and used for caste marks by Nepalese.
		E 370. Kalapokri, Darjeeling, 9,000 feet
	985	S. ramosissima, Wall.
		Vern.—Lodh, HIND.; Kala kharani, silingi, NEPAL; Tungchong, LEPCIIA. A small evergreen tree of Himalaya from the Jumna to Bhutan ascending to 7,500 feet, Khásia Hills. Wood white, soft, even-grained. Weight 37 lbs. per cubic foot.
		E 367. Rangbúl, Darjeeling, 7,000 feet 37 E 3336. Rangirúm, Darjeeling, 6,000 feet
•	ه	SYRINGA.
	986	Syringa Emodi, Wall., OLEACEE.
	,	Vern.—Ban phint, ban dakhur, banchir, rasli, jiu ri, ri. gkrun, kehimu, lolti, leila, shafri, shapri, duden, chilanghati, PB.; Shia, Kumaun. A large shrub met with in Safed-koh, North-West Himalaya, from the Indus to the Sarda, ascending to 11,000 feet. Wood smooth, hard, with a small, dark-coloured heartwood. Weight 59 lbs. per cubic foot.
		H 2011. Nagkanda, Simla, 8,000 feet
		H 3023. " " 9,000 " 59
		. TABERNÆMONTANA.
	0 87	Tabernæmontana coronaria, Willd., Apocynace.
		Veru.—Chandni, taggai, taggar, HIND.; Asuru, NEPAL; Krim, LEPCHA; Chameli, Monghyr.
		An evergreen shrub met with in Kumaun, Eastern Bengal, Konkan; cultivated throughout India.

	,
•	TAMARIX.
Wood white, moderately hard, close-grained. Weight 47 lbs. per cubic foot.	
E 2392. Sivoke Forest, Darjeeling Terai 47	
·\ TALAUMA.	·
Talauma Hodgsoni, Hook. f. & T., MAGNOLIACEE. Vern.—Siffoo, LEPCHA; Harré, NEPAL. An evergreen tree found in Sikkim Himalaya from the Terai up to	988
6,000 feet; Khásia Hills. Wood very soft, even-grained. Weight 21 lbs. per cubic foot.	
E. 3100. Darjeeling, 5,000 feet 21	
T. Rabaniana, Hook. f. & Th. Vern.—Sappa, Ass. A large tree of the Khásia Hills and Burma.	• 98g.*
Wood is sometimes used in Assam for furniture and planking.	
(Specimens wanted.)	
TAMARINDUS.	
Tamarindus indica, Linn, Leguminosæ.	990
THE TAMARIND.	
Vern.—Amli, ambli, ımli, HIND.; Tintiri, tintil, tintâl, BENG.; Titri, NEPAL; Teteli, ASS.; Tentâli, koyan, URIYA; Phili, TAM.; Chinta, TEL.; Jojo, Kol.; Chica, sitta, hıtta, Gond; Cicha, Oulku; Karangı, kamal, asam, Mysore; Hunase, KAN.; Amli, chits, MAR.; Siyembela, CINGH.; Magyee, BURM.	
A large evergreen tree, cultivated throughout India and Burma as far north as the Jhelum. Wood yellowish white, sometimes with red streaks, hard and close-grained. Heartwood small, near the centre of old trees only, dark purplish brown, with an irregular outline and radiating ramifications, very durable. Weight, about 83 lbs. per cubic foot. Wood highly prized, though extremely difficult to work. It is used for wheels, mallets, planes, furniture, rice-pounders, oil and sugar mills, and is an excellent, wood for turning. It is very largely planted in avenues and topes, and is one of the most beautiful of Indian trees.	
C. 2811. Melghát, Berar	
' TAMARIX.	
Tamarix articulata, Vahl., Tamariscinez. Vern.—Farás, farwa, rúkh, ukhan, kharlei, narlei, PB.; Asrelli, Sind. A large or moderate sized tree, of Punjab and Sind. Wood white, moderately hard. Weight about 61 lbs. per cubic foct. It is used for many kinds of ordinary work, for ploughs, Persian wheels and small ornaments, and for charcoal.	991
P 886. Multan 61	
G 241	- I

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TECOMA.	
992	Tamarix dioica, Roxb. Vern.—Lei, pilchi, koan, kacheli, Ps.; Gas, láo, jau, Sind; Lal jhau, Beng.; Jau, Hind. A gregarious shrub found throughout India from Sind to Burma. Often planted for ornament. Wood moderately hard, red, outer portion white. Veight 40 lbs. per cubic foot. It is used mainly for fuel, but also for the supporting sticks of roofs, and for basket work. P 888. Multán P 1388. Lahore 1. Jan.
	TAXUS.
993	Taxus baccata, Linn., Conifera.
	THE YEW.
	Syn.—T. NUCIFERA, Wall.; T. WALLICHIANA, Zucc.
/I	Vern.—Saráp, badar, Afg.; Birmi, barma, barini, táng, thúnu, sungal, püstül, chogu, chatúng, Kashmir, Chamba; Rakhal, Beas; Barmi, Shali; Thúna, Hattu; Yamdal, rikaling, Kunawar; Thúner, geli, gallu, lúst, N. W. P.; Nhare, Tibet; Pung-cha, sungcha, Ladak; Tcheiray sulah, Nepal; Tingschi, tsashing, Bhutia; Cheongbu, Lepcha; Dingsableh, Khasia. A large evergreen tree of the Himalaya, from the Indus to Bhutan, generally between 6,000 and 10,000 feet, and in the Khásia Hills, Europe, North Africa, Western Asia, Japan, and North America. Sapwood white, heartwood red or orange-red, hard, close-grained, smooth, works and polishes well. Weight about 59 lbs. per cubic foot. Wood is used for bows, carrying poles and native furniture, and deserves to be better known and more extensively used, as it is very strong and elastic, and works and polishes beautifully. In some parts of the Himalaya and the Khásia Hills it is held in great veneration and called Deodar (God's tree); the wood is burnt as incense, the branches are carried in religious processions in Kumaun, and in Nepal the twigs are used to decorate houses at religious festivals. H 161. Hazara, 8,000 feet H 921. """ H 895. Murree """ H 116. Jagatru, Kulu, 8,000 feet H 773. Chanota, Ravi, 7,500 H 18. Matiyana, Simla, 9,000 feet H 56. Hattu, Simla, 9,500 feet H 56. Hattu, Simla, 9,500 feet H 382. Tonglo, Darjeeling, 9,000 feet H 3832. Tonglo, Darjeeling, 9,000 feet Tea boxes and other packing cases.—Woods in use or suggested for. See Appendix.

TECOMA.

Tecoma undulata, G. Don., BIGNONIACEE.

Syn.—BIGNONIA UNDULATA, Roxb.

Vern.—Reodána, rebdán, Trans-Indus; Lahúra, lúar, roir, rahíra, Pb.;

Lohúri, lohéro, Sind; Roira, Mhairwarra; Rakht reora, Mar.

An evergreen shrub or small tree met with in Sulaiman and Salt Ranges, Punjab plains, Rajputana, Guzerat.

TECTONA

Heartwood greyish or yellowish brown, close-grained, mottled with lighter streaks, takes a fine polish. Wood is tough, strong and durable, works and polishes well. Weight about 46 lbs. per cubic foot.

It is highly prized for furniture, carving work, and agricultural imple-

ments.

P 943. Salt Range, Punjab

lbs.64

TECTONA.

Tectona grandis, Linn. fil., Verbenace.

THE TEAK TREE.

Vern, —Súj, Arab.; Súj, súl, Pers.; Ságun, Hind.; Singuru, Uriya; Súg, ságwan, Mar.; Teka, Gond; Ság, Bhil, Tekku, tek, Tam.; Teku, Tel.; Jádi, sagwani, téga, Kan.; Tekka, Cingh.; Kyun, Burm.; Jati, Malay.

A large deciduous tree, found in Central and South India, and Burma. Its northern limit may be defined by a line passing from the mouth of the Nerbudda up that river, and across to and down the Mahanadi; but in some places it extends farther north, and it is found as far as Jhansi and Banda. It is cultivated in Assam, Bengal, and the sub-Himalaya as far

north as Saharanpur.

The sapwood is white and small; the heartwood when cut green has a pleasant and strong aromatic fragrance and a beautiful dark golden yellow colour, which, on seasoning, soon darkens into brown mottled with darker streaks, hard, exceedingly durable, and strong. The wood does not split, crack, warp, shrink, or alter its shape when once seasoned; does not suffer in contact with iron, and is rarely, if ever, attacked by white ants. Its durability is probably due to the aromatic, oil contained in the wood. It works easily and takes a good polish. Weight, about 40 lbs. per cubic foot.

It is the chief timber of India and Burma; it is exported largely for ship building and the construction of railway carriages; in India it is used for all purposes of house and ship-building, for bridges, sleepers, furniture,

and most other purposes.

	105.
	Jagmandal Reserve, Central Provinces
	Ahiri Reserve, Central, Provinces . 38
C 2933.	Sonawani, Satpura Reserve, Central Pro-
•	vinces
	(Tree planted in 1867, cut down in 1876, 10
•	inch girth.)
C 2083.	(White Teak, Dudhia Sagun), Jubbulpore,
, 0	Central Provinces, 1863 41
C 2082.	(Black Teak, Telia Sagun or oil teak), Jub-
.	bulpore, Central Provinces, 1863 48
C 2987.	(Stone Teak, Pattharee Sagun), Jubbul-
	pore, Central Provinces, 1863 44
C 834.	Bairagarh Reserve, Berar
	Melghát, Berar (sapwood) 38
E 1202.	Bamunpokri Plantation, Darjeeling Terai,
	Bengal
Specimens	from compartment I. 1 planted 1868
,,	" " II. 1 " 1871 "
,,	i i i i i i i i i i i i i i i i i i i
,,	" " I. 3 b " 1872
E 2200-201	. Hoolingamara Block, Sitapahar plantations, Chittagong,
- 3-90-191	1873 and 1875.
	/3 == .0/3.

995

lhe.

TERMIN-		•	•				-
ALIA,	E 3386-88.	Rampahar Blo	ck, Sitapah	ar plant	ation,	Chittag	ong,
	W-1216.				.,		
•	l	Specimen from	Sulager Murdi	1, 18 year 12 ,,	s ola.	•	
	·	•	(Kadra	10 ,,	1 20	lbs.	
	W 1217.	North Kanara,	Bombay .	. :		39	
	W 730.	South Kanara,				46	•
	W 753. W 1206.	Parappa Teak I	Plantation S	outh Ka	nara.	42	
	VV 1250.	Madras, Sap					
	W 2959.	growth Nilamour Plant				•••	
		cut by Mr. Br and 4 aged 5,	andisin 186	54, Nos. ars and	I, i		
•		suring 16, 19 a	nd 25 inches	in girth	res-		
	337	pectively .		- h		•••	
	W 1203.	Nilambur Plan Nos. 1 to 33, a			eries,		
		pectively .	Pon (20) non 2			•••	
	B 2551.	Burma (1862)			•	44	
	B 801.	Pegu Thinganneenous	og Plantation	Martal		40	
	В 1385.	Tree 54 feet high				34	
		planted in 1856.					
	B 2709.	Tavoy (Wallich,		• •	•	42	
	В 1346.	Andaman Island (Tree planted at I		ev. Leaf C	reek.	•••	
(Port Blair, in	1873. He	ight 44	feet:		
_		girth at 5 feet, inches; at 28	feet, 10 inch	ies.)	it, 17		
	No. 85.	Ceylon Collection			•	44 *	
	,, 86. ,, 8 ₇ .	, ,,	(Cochin woo (Moulmein		•	40 44	
	,, 6/. ,, 47·	Salem Collection			•	40	
_ 996	Tectona Hami	ltoniana. Wall.		•	,	,	
~ 330	Vern Tai	aab. Burm.			·		
	A deciduous	ree met with in t rown, hard, clos	he Prome dis e-grained.	trict and Weight	eم ت ^{ال} 64 lbs	r Burma	ubic
	foot.			• 1	•	-	•
	A good wood	, and likely to be	userui.			lbs.	
	В '3126. Г	rome, Burma	• •	• •	•	64	
					•		
		TERM	INALIA.				
997	Terminalia Arjı	ina, Beddome, C	OMBRETACE	生.			
771	Syn(—T. ci	RENULATA, Roth.; 1	Pentaptera A	ARJUNA and	d GLAB	ra, <i>Roxb</i> .	
	Vera.—Ang	an, arjún, arjúna, Arión Benc - Gari	anjani, arjan a hatawa Ko	, jamla, . Hania	koha,	<i>kowa, ka</i> TACK • I	húa, Iella
	marda,	Arjún, BENG.; Gard vella matti, vella Vaddi, billi matti, N ihu, BAIGAS; Mang	marúthú, TA	м.; <i>Атј</i> г	in, an	an, sud	ura,
	MAR.; M	laddi, billi matti, N	IYSORE; <i>Yerm</i> ri. koka: Gont	addi, érra : Toukku	maddi an. Bu	, <i>tella mi</i> RM.	zdu,
•	A large deti	duous tree of th	e sub-Hima	layan tra	act (n	ot Lomm	on),
į		urma, Central an			•		

Timbers.	PART VII.
Secured raddish white, heartwood brown universal with darker	TERMIN- ALIA.
Sapwood reddish white; heartwood brown, variegated with darker coloured streaks, very hard. The wood is apt to split in seasoning and is not easy to work. Weight about 57 lbs. per cubic foot. It is used for carts, agricultural implements, boats, and for building.	i
lbs. C 179 Mandla, Central Provinces (1870) . 54	
C 1111. Ahiri Reserve, Central Provinces	_
Terminalia belerica, Roxb.	998
Vern.—Babela, beleyleh, Pers.; Bahera, bhaira, behara, Hind.; Bohera Beng.; Baheri, Rajbanshi; Kanom, Lepcha; Chiroræ, Garo; Lupáng lihung, Kol.; Hulluch, bauri, Ass.; Tharap Uriva; Tani, kattu elupay Tam.; Tani, tandi, toandi, thandra, Tel.; Ahera, jhera, Hyderabad Santi, Kan.; Bherda, bahera, Mar.; Balra, balda. Dekkan; Behedo Mandevi; Tahaka, taka, banjir, Gond.; Yehera, Bhil; Bálú, Cingh. Sacheng, Magh; Thitsein, Burm.	
A large deciduous tree found in the sub-Himalayan tract from near the Indus eastwards; forests of India and Burma. Wood yellowish-grey, hard, no heartwood, not durable; readily attacked by insects. Weight about 48 lbs. per cubic foot.	1
It is used for planking, packing cases, canoes, and in the North Western Provinces for house-building after steeping in water which has the effect of making it more durable. In the Central Provinces it is used for plough shafts and carts when bijasal is not available. In South India it is used for packing-cases, coffee-boxes, catamarans, and grain messures.	n s n
lbs.	
E 3600. Darjeeling	•
O 2995. Garhwal (1874)	
C 1125. Ahrri Reserve, Central Provinces 42 C 2737. Moharli Reserve, Central Provinces 44	
C 2973. Melghát, Berar	
B 2532. Burma (1862) No. 53. Salem Collection (marked Wrightia antidy-	
senterica) 52	}
T. bialata, Wall. Syn.—Pentaptera Bialata, Roxb. (Fl. Ind. ii, 441.) Vern.—Læinben, Burm.	999
A large deciduous tree met with in Burma and the Andaman Islands. Wood grey, beautifully mottled, moderately hard. Weight about 40 lbs. per cubic foot.	В
B 1417. Tharrawaddi, Burma	
T. Catappa, Linn.	1000
THE INDIAN ALMOND.	
Vern.—Badam, Beng.; Taree, Kan.; Nal vadom, Tam.; Vedam, Tel. Adamarram, Mal.; Catappa, Malay. A large deciduous tree found in beach forests of the Andama	1 .
Islands; cultivated in most parts of India and Burma.	

TERMIN-	
ALIA.	33733
	Wood red, with lighter-colour sapwood, hard. Weight about 41 lbs. per cubic foot.
	Beddeme says the wood is used for various purposes in Madras.
•	lbs.
	E 3005. Calcutta
	B 1983. Andaman Islands (<i>Kurs</i> , 1866) 41 E 3712. R. B. Gardens, Calcutta
1001	Terminalia Chebula, Retz.
	Vern. Harra, har, harara, HIND.; Hilikha, ASS.; Haritaki, BENG. Sılim, LEPCHA; Karedha, URIYA; Halra, harla, DEC.; Karka, hir harro, mahoka, GOND; Kadakai, TAM.; Karaka, kadulkar, TEL. Heeria, KAN. MAR. Alali MASONE. Kaic MACH, Paggal Burn.
	narro, manoka, GOND; Kadakat, IAM.; Karaka, kadukar, IEL. Heerda, KAN., MAR.; Alalé, Mysore; Kajo, Magh; Pangah, Burm. Aalu, Cingh.
	A large deciduous tree of the sub-Himalayan tract from the Sutlej
· .	eastwards, ascending to 5,000 feet; Bengal, Assam, Chittagong, Central and South India.
	Wood very hard, brownish-grey, with a greenish or yellowish tinge,
	tairly smooth and close-grained, fairly durable, seasons well, and takes a
	good polish. Beddome says it is cross-grained and difficult to work. Weight about 66 lbs. per cubic foot.
	It is used for furniture, carts, agricultural implements and house-
	building. It is being tried for sleepers in Bengal.
	lbs.
	C 3531. Khurda Forests, Orissa 59
	O 213. Garhwal (1868)
	O 528. Dehra Dun
	C 181. Mandla, Central Provinces 57
	C 1159. Ahiri Reserve, Central Provinces (1870) 66
~	C 842. Bairagarh Reserve, Berar 68
	C 1247. Gumsúr, Madras 60 E 671. Bamunpokri, Darieeling Terai 67
•	E 671. Bamunpokri, Darjeeling Terai 67 E 2374. ,, ,, , 63
	D 1074. North Arcot, Madras
	No. 50. Salem Collection 62
	anna de la companya d
~ 1002	T. citrina, Roxb.
	Vern.—Haritaki, Beng.; Hilika, silikka, Ass.; Hortucki, CACHAR; Kyoo, Burm.
	A large deciduous tree of Assam, Eastern Bengal, Burma, and
	Andamans.
	Wood grey, darker towards the centre, hard. Weight about 60 lbs.
	per cubic foot. Used for planks and general purposes of building in Assam.
	lbs.
	E 2198. Nowgong, Assam 49
	B 1982. Andaman Islands (Kurz, 1866)
1003	T. myriocarpa, Heurck & Mull. Arg.
2003	Syn.—T. myriopteron, Kurs.
	Vern.—Panisaj, Nepal; Sungloch, Lepcha; Hollock, Ass.
	A very large evergreen tree of the Eastern Himalaya and Assam, in
	Sikkim up to 5,000 feet,
	Sapwood white, not broad; heartwood brown, beautifully mottled
i	with dark streaks. Weight, 54 lbs. per cubic foot.

• • • • • • • • • • • • • • • • • • • •	TERMIN
Used for building and tea-boxes, also for charcoal.	. ALIA.
E 500. Khookloong Forest, Darjeeling Terai 54 E 2376. Bamunpokri, Darjeeling Terai 51 E 2385, cut from a log of wood which had been lying for many years in the bed of the Chauwa Jhora, near Sivoke, in the Darjeeling Terai, and is now perfectly black, may be this species.	
Terminalia paniculata, $W. & A.$	1004
Syn.—Pentaptera paniculata, Roxb. Vern.—Pe-karakai, Tam.; Neemeeri, Tel.; Kinjal, kindal, Mar.; Honal, huluvá, hulvé, Kan.; Poo mardá, pillai mardá, Anamalais. A large deciduous tree of the western moist zone and forests of the western coast from Bombay southwards. Wood grey, with dark heartwood, very hard. Weight 61 lbs. per cubic foot.	
Wood valuable; it is improved by being kept under water. It is fairly durable. It makes good planking, and is used for the handles of ploughs in Ratnaghiri.	• •
• lbs.	1
W 1221. North Kanara 57 D 1280. Anamalai Hills 65	1
•	
T. tomentosa, $W. & A.$	1005
Syn.—Penteptera crenulata, coriacea and tomentosa, Roxb.	1
Vern — Saj, sein, asan, assain, assaina, asna, sadri, HIND.; Piasal, usan, BENG.; Jhau, RAJ BANSHI; Amari, ASS.; Taksor, LEPCHA; Hatana, KOI; Saháju, kala saháju, URIYA; Barsaj, BIJERAGOGARH; Karra marda, karú marúthú, anemúi, TAM.; Maddi, halla naddi, nella-madu, TEL.; Matti, kari matti, banapu, KAN.; Murada, kali maruthai, ARCOT; Matti, kari matti, banapu, KAN.; Murada, kali maruthai, ARCOT;	
Matti, kari matti, banapu, KAN; Murada, kali maruthat, ARCOT; Karkaya, sadora, holda, dudia maddi, Hyderabad; Ain, madat, yén, Mar.; Saja, Baigas; Maru, Gond; Madge, Biil; Toukkyan, Burm.; Chouchong, Taleing; Kúmúk, Cingh.	
A large deciduous tree, of the sub-Himalayan tract from the Ravi eastwards, ascending to 4,000 feet in places; Bengal, Central and South	
India, and Burma. Sapwood reddish white, heartwood dark-brown, hard, beautifully variegated with streaks of darker colour, shewing on a radial section as dark streaks which are generally wavy or undulating; durable, seasons well, and takes a good polish. Weight about 71 lbs. per cubic foot. The wood is largely used for house-building, carts, rice-pounders, ship	_
and boat-building. It has been successfully tried for railway sleepers.	1
The wood splits, however, very much, unless thoroughly seasoned. It	
is an excellent fuel, and makes good charcoal. ibs.	1
O 207. Garhwal (1868)	
O 2996. ,, (1874) 65	1
O 874. Kumaun Bhabar	1
O 389, Oudh	
O 393. ,,	
*C 332. Gorakhpur (1868)	1
C 174. Mandla, Central Provinces (1870)	1
C 1104. Ahiri Reserve, Central Provinces 67	
C 2743. Moharli Reserve, Central Provinces (sapwood) 48	
C 1241. Gumsúr, Madras	
 E 662. Bamunpokri, Darjeeling Terai E 2375. Sukna, Darjeeling Terai 56 	•

TETRAN- THERA.	ibs.
	W 755. South Kanara 60
	D 1059. South Arcot
	D 1977. North Arcot
	D 1281. Anamalai Hills 69
	B 2531. Burma (1802)
	E 3500. Dailcening Term
	TETRAMELES.
1006	Tetrameles nudiflora, R. Br., DATISCEE.
	Vern.—Mainakat, NEPAL; Poyomko, LEPCHA; Bolong, GARO; Sandu-
	gasa, Beng, Tseikhoban, Magh, Thitpouk, Burm., Bolur, Kan
	A very large deciduous tree met with in Sikkim, Garo Hills, Chitta-
	gong, Western Ghâts, Burma, and the Andamans.
	Wood white, very light, soft.
٠.	It may be found useful for tea-boxes.
•	
	E. 3288. Rinkheong Reserve, Chittagong.
	TETRANTHERA.
	1
1007	Tetranthera angustifolia, Wall., La RINEE.
•	Syn.—T Saligna, Nees.
	Vern.—Risapaing, Beng; Shealbuk, MAGY
	A large shrub, found near river banks in Chittagong, where it forms
	the most characteristic vegetation.
	Wood soft, light-brown or nearly white.
	E. 3283. Rinkheong Valley, Chittagong Hill Tracts.
•	E. 3283. Rinkneong vaney, Chitcagong 17th Tracts
′	T. laurifolia, Jacq.
1008	1. Idulious Just Porh
	Syn. – T. APETALA, Roxb. Vern. – Maida, meda, gwa, rian, chandra, PB; Garbijaur, singrauf, madh,
	menda, HIND, Suppatnyok, LEPCHA, Kukur chita, BENG, Narra alagi,
	menda, HIND, Supparityon, LEFCHA, Maker those, Salet, Marie Harry,
	TEL; Ungdung, BURM. A moderate sized evergreen tree of Kumaun, Garhwal, Bengal,
	A moderate sized evergreen tree of Rumann, Carman, Songer,
	Burma, Central and South India
• 4	Wood greyish-brown or olive-grey, moderately hard, shining, close
	and even-grained, seasons well, durable, and is not attacked by insects.
	Weight 47 lbs per cubic foot.
	A fine wood worth notice.
	O 253. Garhwal (1868) 48
	O 1378. Gonda, Oudh 45
	O 1484. Kheri, Oudh 48
	D 1087. Madura, Madras 40
	B 2286 Andaman Islands (1866) 47
	1
1000	T. monopetala, Roxb.
,	Vern Meda, gwa, singraf, sangran, marda, kat marra, kakuri, kerauli,
	patora, katmoria, papria, katmedh, kari, randkari, FIIND; Mendah,
	kari, kjera, toska, leja, GOND, Pojo, hajam, KOL, Leinja, KUKKU;
	Raimanti, kadmero, NEPAL, Suphut, LEPCHA, Dut, mogasong, MECHI;
	Vern.—Meda, gwa, singraf, sangran, marda, kat marra, kakúri, kerauli, patoia, katmoria, papira, katmedh, kari, randkari, Hind; Mendah, kari, kjera, toska, leja, Gond, Pojo, hajam, Kol, Leinja, Kurku; Ratmanti, kadmero, Nepal, Suphut, Lepcha, But, mogasong, Mechi; Sualu, Ass; Huara, Cachar, Bolbek, Garo; Ranamba, Mar.;
	A moderate sized evergreen tree of the sub-Himalayan tract from the
•	Ravi eastwards, Kumaun, Garhwal, Bengal, Burma, Central and South
•	India.

	THESPE-
Wood olive-grey, soft, not durable; is readily attacked by insects.	SIA.
Weight 38 lbs. per cubic foot.	
It is used for agricultural implements.	
O 236. Garhwal (1868) 38	•
O 1367. Gonda, Oudh	•
Tetranthera polyantha, Wall. Vern.—Siltimber, Nepal; Terhilsok, Lepcha; Adakuri, edenkuri, mesen-kuri, Ass.	1010
A small tree of the Eastern Himalaya, Assam, and the Khásia Hills, generally of old cultivated land. E 3410.	
T. sp: _	IOII
Vern.—Hooria.	
Wood soft.	• :•
E. 717. Chittagong 34	
T. tomentosa, Roxb.	1112
VernPhusri, Nepal; Phane, Lepcha. A tree met with in Himalaya, from Sirmur (Wallich) eastwards, common in the Sikkim Hills from 6,000 to 8,000 teet, South India, and	
Burma. Wood soft greyish-yellow with an unpleasant odour when fresh cut. E 3374. Darjeeling, 6,000 feet.	
TEUCRIUM.	
	•
Teucrium macrostachyum, Wall., Labiatæ.	1013
Vern.—Matsola, gurupis, NEPAL; Chúng, LEPCHA. A small evergreen tree of the Eastern Himalaya from Nepal eastwards, Khásia Hills and Sylhet, from 5,000 to 8,000 feet	Ì
Wood yellowish-white, moderately hard, close and even-grained.	İ
Wood yellowish-white, moderately hard, close and even-grained. Weight 41 lbs. per cubic foot. It makes a fair fuel. It coppices well.	
Wood yellowish-white, moderately hard, close and even-grained. Weight 41 lbs. per cubic foot.	_
Wood yellowish-white, moderately hard, close and even-grained. Weight 41 lbs. per cubic foot. It makes a fair fuel. It coppices well. Ibs. E 2411. Rangbúl, Darjeeling, 7,000 feet	-
Wood yellowish-white, moderately hard, close and even-grained. Weight 41 lbs. per cubic foot. It makes a fair fuel. It coppices well. E 2411. Rangbúl, Darjeeling, 7,000 feet	1014
Wood yellowish-white, moderately hard, close and even-grained. Weight 41 lbs. per cubic foot. It makes a fair fuel. It coppices well. E 2411. Rangbúl, Darjeeling, 7,000 feet	1014
Wood yellowish-white, moderately hard, close and even-grained. Weight 41 lbs. per cubic foot. It makes a fair fuel. It coppices well. E 2411. Rangbúl, Darjeeling, 7,000 feet	1014
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PART VII.	.] Economic Products of India.	•	,	
TURPINIA.	,			
1016	Thespesia populnea, Corr.			
_0_0	THE PORTIA TREE OF TULIP TREE.			
	Syn, 4 Hibiscus populneus, Willd.			
•	Vern.—Parsipu, HIND.; Poresh, parash, BENG.;	Porty	, pura	sa, portia
	pursa, pursung, puvarasam, Tam.; Gangaraya Mar.; Asha, hurbashi, Kan.; Bugari, Hassan;	z, TEL	; Be	ndí, Guz.
•	A moderate sized evergreen tree found in the Co	ourey nast f	forest	on. S of India
	Burma, and the Andaman Islands. Planted through	out I	ndia.	
•	Sapwood soft; wood pale-reddish, with small,	dark-	-colou	red, hard
	heartwood. Weight about 50 lbs. per cubic foot.	4	1 h	ta
	Wood durable; it is used in South India for guand carriage-making and for furniture; in Burma for	carts	and	forniture.
	to the same of the			5.
	C 1050. Guzerat	•	• 5	o' `
_	E 2488. Calcutta	•	• •	••
·*•	B 2470. Andaman Islands (Kurz, 1866). No. 51. Salem Collection	•		
	No. 28. , (marked Eugenia	cary	· · · · ·	J
	phyllæfolia)	•		8
	No. 80. Ceylon Collection	•	. 4	9
	TODDAL4A.			
	1000111111			
	Taddalia apulanta Dun Duniana			
1017	Toddalia aculeata, Pers., Rutacez.			
1017	Syn.—Scopolia aculeata, Sm.	\; <i>Me</i>	einkar	a, Nepal
1017	Syn.—Scopolia aculeata, Sm. Vern.—Kanj, Hind.; Dahan, lahan, Rajputana Saphijirik, Lepcha; Tundupara, Uriya; Milka kashinda, Tel.	ıranai,	, TAM	.; Konda
1017	Syn.—Scopolia aculeata, Sm. Vern.—Kanj, Hind.; Dahan, lahan, Rajputana Saphijirik, Lepcha; Tundupara, Uriya; Milka kashinda, Tel. A large scandent shrub, the branches covered	<i>iranai,</i> I with	, TAM prick	.; Konda
	Syn.—Scopolia aculeata, Sm. Vern.—Kanj, Hind.; Dahan, lahan, Rajputana Saphijirik, Lepcha; Tundupara, Uriya; Milka kashinda, Tel. A large scandent shrub, the branches covered outer Himalaya from Kumaun eastwards, Khásia Ghâts, ascending to 7,000 feet.	<i>iranai,</i> I with	, TAM prick	.; Konda
	Syn.—Scopolia aculeata, Sm. Vern.—Kanj, Hind.; Dahan, lahan, Rajputana Saphijirik, Lepcha; Tundupara, Uriya; Milka kashinda, Tel. A large scandent shrub, the branches covered outer Himalaya from Kumaun eastwards, Khásia Ghâts, ascending to 7,000 feet. Wood porous, yellowish-white, soft.	<i>iranai,</i> I with	, TAM prick	.; Konda
	Syn.—Scopolia aculeata, Sm. Vern.—Kanj, Hind.; Dahan, lahan, Rajputana Saphijirik, Lepcha; Tundupara, Uriya; Milka kashinda, Tel. A large scandent shrub, the branches covered outer Himalaya from Kumaun eastwards, Khásia Ghâts, ascending to 7,000 feet.	<i>iranai,</i> I with	, TAM prick	.; Konda
	Syn.—Scopolia aculeata, Sm. Vern.—Kanj, Hind.; Dahan, lahan, Rajputana Saphijirik, Lepcha; Tundupara, Uriya; Milka kashinda, Tel. A large scandent shrub, the branches covered outer Himalaya from Kumaun eastwards, Khásia Ghâts, ascending to 7,000 feet. Wood porous, yellowish-white, soft. E 2855. Tukdah, Darjeeling, 5,000 feet.	<i>iranai,</i> I with	, TAM prick	.; Konda
	Syn.—Scopolia aculeata, Sm. Vern.—Kanj, Hind.; Dahan, lahan, Rajputana Saphijirik, Lepcha; Tundupara, Uriya; Milka kashinda, Tel. A large scandent shrub, the branches covered outer Himalaya from Kumaun eastwards, Khásia Ghâts, ascending to 7,000 feet. Wood porous, yellowish-white, soft. E 2855. Tukdah, Darjeeling, 5,000 feet. TREWIA.	<i>iranai,</i> I with	, TAM prick	.; Konda
	Syn.—Scopolia aculeata, Sm. Vern.—Kanj, Hind.; Dahan, lahan, Rajputana Saphijirik, Lepcha; Tundupara, Uriya; Milka kashinda, Tel. A large scandent shrub, the branches covered outer Himalaya from Kumaun eastwards, Khásia Ghâts, ascending to 7,000 feet. Wood porous, yellowish-white, soft. E 2855. Tukdah, Darjeeling, 5,000 feet. TREWIA. Trewia nudiflora, Linn., Euphorbiaceæ.	ranai, with Hills	pricks, and	es, of the Western
	Syn.—Scopolia aculeata, Sm. Vern.—Kanj, Hind.; Dahan, lahan, Rajputana Saphijirik, Lepcha; Tundupara, Uriya; Milko kashinda, Tel. A large scandent shrub, the branches covered outer Himalaya from Kumaun eastwards, Khásia Gháts, ascending to 7,000 feet. Wood porous, yellowish-white, soft. E 2855. Tukdah, Darjeeling, 5,000 feet. TREWIA. Trewia nudiflora, Linn., Euphorbiaceæ. Vern.—Túmri, khamara, bhillaura, Hind.; Pitali, E	ranai, with Hills	pricks, and	es, of the
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	Syn.—Scopolia aculeata, Sm. Vern.—Kanj, Hind.; Dahan, lahan, Rajputana Saphijirik, Lepcha; Tundupara, Uriya; Milka kashinda, Tel. A large scandent shrub, the branches covered outer Himalaya from Kumaun eastwards, Khásia Ghâts, ascending to 7,000 feet. Wood porous, yellowish-white, soft. E 2855. Tukdah, Darjeeling, 5,000 feet. TREWIA. Trewia nudiflora, Linn., Euphorbiaceæ. Vern.—Túmri, khamara, bhillaura, Hind.; Pitali, E Gara lahadarug, Kol.; Gamhar, Monghyr; M gamari, Nepal; Tungflam, Lepcha; Pitari, Kan.; Hruprukban, Magh; Thitmyoke, ye-myot,	BENG.; MAF, BURN BURN BURN BURN	pricks, and Kron URIY,	les, of the Western g, NEPAL A; Garum at kumbla
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	Syn.—Scopolia aculeata, Sm. Vern.—Kanj, Hind.; Dahan, lahan, Rajputana Saphijirik, Lepcha; Tundupara, Uriya; Milka kashinda, Tel. A large scandent shrub, the branches covered outer Himalaya from Kumaun eastwards, Khásia Ghâts, ascending to 7,000 feet. Wood porous, yellowish-white, soft. E 2855. Tukdah, Darjeeling, 5,000 feet. TREWIA. Trewia nudiflora, Linn., Euphorbiaceæ. Vern.—Túmri, khamara, bhillaura, Hind.; Pitali, E Gara lahadarıg, Kol.; Gamhar, Monghyr; M gamari, Nepal; Tungflam, Lepcha; Pitarı, Kan.; Hruprukban, Magi; Thitmyoke, ye-myot, A deciduous tree of the sub-Himalayan tract frowards, ascending to 3,000 feet, Bengal, Burma, and S Wood white, soft, not durable. Weight 29 lbs. p	BENG.; omda, i, MAR BURN Om the South er cul	pricks, and Kiron URIY.R., K	les, of the Western Western May, NEPAL A; Garum at kumbla mna east
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	Syn.—Scopolia aculeata, Sm. Vern.—Kanj, Hind.; Dahan, lahan, Rajputana Saphijirik, Lepcha; Tundupara, Uriya; Milko kashinda, Tel. A large scandent shrub, the branches covered outer Himalaya from Kumaun eastwards, Khásia Ghâts, ascending to 7,000 feet. Wood porous, yellowish-white, soft. E 2855. Tukdah, Darjeeling, 5,000 feet. TREWIA. Trewia nudiflora, Linn., Euphorbiacee. Vern.—Túmri, khamara, bhillaura, Hind.; Pitali, E Gara lahadarug, Kol.; Gamhar, Monghyr; M gamari, Nepal; Tungflam, Lepcha; Pitari Kan.; Hruprukbam, Magh; Thitmyoke, ye-myod. A deciduous tree of the sub-Himalayan tract frowards, ascending to 3,000 feet, Bengal, Burma, and S Wood white, soft, not durable. Weight 29 lbs. p Used for native drums and agricultural implement E 2468. Calcutta B 311. Burma (1867)	BENG.; omda, i, MAR BURN Om the South er cul	pricks, and kiron Kir	les, of the Western A; Garum at kumbla mna east
	Syn.—Scopolia aculeata, Sm. Vern.—Kanj, Hind.; Dahan, lahan, Rajputana Saphijirik, Lepcha; Tundupara, Uriya; Milko kashinda, Tel. A large scandent shrub, the branches covered outer Himalaya from Kumaun eastwards, Khásia Ghâts, ascending to 7,000 feet. Wood porous, yellowish-white, soft. E 2855. Tukdah, Darjeeling, 5,000 feet. TREWIA. Trewia nudiflora, Linn., Euphorbiaceæ. Vern.—Túmri, khamara, bhillaura, Hind.; Pitali, E Gara lahadarug, Kol.; Gamhar, Monghyr; M gamari, Nepal; Tungflam, Lepcha; Pitari, Kan.; Hruprubban, Magh; Thitmyoke, ye-myod. A deciduous tree of the sub-Himalayan tract frowards, ascending to 3,000 feet, Bengal, Burma, and S Wood white, soft, not durable. Weight 29 lbs. p Used for native drums and agricultural implement	BENG.; omda, i, MAR BURN Om the South er cul	pricks, and kiron Kir	les, of the Western A; Garum at kumbla mna east
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	Syn.—Scopolia aculeata, Sm. Vern.—Kanj, Hind.; Dahan, lahan, Rajputana Saphijirik, Lepcha; Tundupara, Uriya; Milko kashinda, Tel. A large scandent shrub, the branches covered outer Himalaya from Kumaun eastwards, Khásia Ghâts, ascending to 7,000 feet. Wood porous, yellowish-white, soft. E 2855. Tukdah, Darjeeling, 5,000 feet. TREWIA. Trewia nudiflora, Linn., Euphorbiacee. Vern.—Túmri, khamara, bhillaura, Hind.; Pitali, E Gara lahadarug, Kol.; Gamhar, Monghyr; M gamari, Nepal; Tungflam, Lepcha; Pitari Kan.; Hruprukbam, Magh; Thitmyoke, ye-myod. A deciduous tree of the sub-Himalayan tract frowards, ascending to 3,000 feet, Bengal, Burma, and S Wood white, soft, not durable. Weight 29 lbs. p Used for native drums and agricultural implement E 2468. Calcutta B 311. Burma (1867)	BENG.; omda, i, MAR om the South er cul	pricks, and kiron Kir	ig, Nepal A; Garum at kumbla mna east
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• • • • • • • • • • • • • • • • • • • •	ULMUS.
eastwards, between 4,000 and 7,000 feet, Assam, Cachar, Chittagong, and Burma.	
Wood grey, soft, even-grained Weight 30 lbs. per cubic foot.	
It's not used. E 549. Sepoydura Forest, Darjeeling, 5,500 feet . 30	
E 349. Sepoydura Forest, Darjeeling, 5,500 feet . 30 E 2108. Darjeeling, 6,000 feet	•
. 'ULMUS. '	
Ulmus integrifolia, Roxb., URTIÇACEÆ.	1020
Syn.—Holoptelea integrifolia, Planch.	
Vern.—Papri, khulen, arján, rajáin, kachám, PB.; Papar, kanju, KUMAUN; Papri, dhamna, kúnj, karanji, chilbil, chilmil, kúmba, kúnja, nali, kandru, begana, HIND.; Daurango, ÜRIYA; Chilla, BANDA; Karinji, GOND.; Karanjel, KURKU; Aya, TAM; Namli, navnli, nali, peddanowli-erayu, TEL.; Wawali, MAR.; Ras bija, KAN.; Thapsi, MYSORE, COORG; Kaladri, HASSAN; Dadahirilla, CINGH; Myoukseit, BURM.	• •
A large deciduous tree of the sub-Himalayan tract from the Beas	•
eastwards, Central and South India, and Burma.	
Wood light yellowish-grey, moderately hard, no heartwood. Weight 39 lbs. per cubic foot.	
It is used for building, carts, and carving.	
lba,	
P 445. Ajmere	
O 3002. ,, (1874) 41	
O 392. Oudh	
C 1148. Ahiri Reserve, Central Provinces • 37	
C 1181. ", " " 37 B 1416. Thariawaddi, Burma 42	•~
B 1419. " " 41	
U. lancifolia, Roxb.	¹ 021
Vern Lapi, NEPAI; Thalai, BURM.	•
A large tree of the North-East Himalaya from Sikkim to Assam, Chittagong, and Burma. Wood light-red, hard.	
E 3343. Singtam, Darjeeling, 1,500 feet.	.
U. sp. 🛰	1022
Vern. – Yúmbok, Ladak; Brán, brahmi, kái, morún, marál, maúru, mannu, mandu, mamji, marn, meru, merinu, bhamji, bhamni, chipál, PB;	
A shrub or small tree met with in Kulu and Hazara. Wood grey with darker streaks, hard, otherwise the structure is the same as that of U . Wallichiana. Weight 37 lbs. per cubic foot.	
It is not used, but considered better than that of U. Wallichiana .	
lbs.	
H 123. Manali, Kulu, 7,000 feet	
↓	
U. Wallichiana, Planch. Vern.—Káin, bren, brera, bránkul, amrái, marárai, marrun, morash, makshári, manderung, maldung, shko, kummar, hembra, PB.; Mored, pabuna, chambar máya, HIND.	1023
• A large deciduous tree of the North-West Himalaya, from the Indus to Nepal, between 3,500 and 10,000 feet.	•

ATICA.	•									
	Heartwo	ood greyis	h-brown, mo	oderat	ely ha	rd.	Weigh	ıt al	oout	36 lbs.
	per cubic fo									
	The woo	orl is used	locally in p	aces v	vhere c	ieoda	r is no	t av	vailai	ple and
	Pinus excel ready sale a									
	more attent		. 3 10 113. 3	por tr		00.0	y 5			tiny or
•									lbs.	
	н	59. Nagk	anda, Simla	ı, 8,oo	o feet		• ′		40	
			ali, Kulu, 7,	_				_	35	
	i		ra, 7,000 fe						32	
		-	gagalli, Haz		ooo fe	•	•	•	32	
	11 31,	/3. Dung	agam, maz	ara, 7,	000 16	- L	•	•	•••	
_			VACC	INIU	JM.				•	
1024	Vaccinium s	seratum.	Wight, V	CCINI	ACEÆ.					
2024		-Charu, N								
	A shrub,	often epip	hytic, foun	d in	Sikkin	n , Bh	utan	and	the	Khásia
	Hills, from 4 Wood wh		oo feet.							
	1		khola, Dar	ieeling	. 4.000	e feet				
		, –		,	7,					
f			VAT	ERI	A.					
1025	Vateria indi	ca. Linn.	. DIPTEROC	ARPEÆ						
			RNISH or I			L Tri	EE.			
	k		RICA, Blume		000					
٤.					allay .	kungi	iliam,	kond	rican	, TAM.
:	Dup Pav	a maram,	ram, dhup m dhupa, pai	ni, m	unda	dhup,	KAN.	; D	upadi	a, TEL.
	1 '		mara, vella k ree of the							Ghâts
	from Kanara									
	Sapwood	white with	h a tinge of	red;	heartw	ood:	grey, r	oug	h. \	Neight,
	41 lbs. per cu	ubic foot.		:	_ 11				£	m
_	and the mas	ts of nativ	request, oc	casion	any u	sea i	or car	1005,	TOF	comns
									lbs.	
	W 7	47. Sout	h Kanara	•	•		•		41	
	W 11	87. "	**		•		•		41	
	1	6							•	
			37 A	TICA				,	•	
					-					
1026	Vatica lance	-								
			ss.; Moal, S							
•			Eastern Hi	malay	a, Assa	ım, E	astern	Beı	ngal,	Chitta-
	gong, and B		igh, hard.	Weig	ht abo	ut 52	lbs. pe	er cu	ıbic ı	μ0 \ .
		d is not ve				J-	-55, P.			
	1	C							lbs.	
	B 250	46	a (1862)	•	•	•	•	•	35	1
C	B •228	32. Anda	mans (1866 ₎		• •	•	•	•	52	
	252					•				

VIBURNU VENTILAGO. Ventilago maderaspatana, Goerin., RHAMNEE. 1027 Vern Raktapita, Beng.; Yerra chicatli, Tel.; Pampli, Tam., Kan.; Lo-kandi, kanwail, Bom.; Chorgu, Hyderabad. A large climbing shrub found in Central and Southern India, and Burma. Wood greyish yellow, porous, soft. C 2020. Central Provinces. VERNONIA. 1028 Vernonia volkameriæfolia, DC, Compositæ. Syn.-V. ACUMINATA, DC. A small tree of the Eastern Himalaya, South India, and Burma. Wood whitish, turning pale brown, moderately hard. Weight 315 lbs. per cubic foot. E. 3312. Pankabari, Darjeeling, 3,000 feet. VIBURNUM. Viburnum coriaceum, Bl., Caprifoliace E. 102 Vern .- Kala titmaliya, KUMAUN; Bara gorakuri, NEPAL. A large shrub or small tree of the Himalaya from the Sutlej to Bhutan at 4,000 to 8,000 feet, Khásia Hills, Nilgiris, and Ceylon. Wood similar to that of V. cotinifolium. Weight 50 lbs. per cubic lhs. H 2835. The Glen, Simla, 6,000 feet 50 V. cotinifolium, Don. Vern.—Mar ghwalawa, Trans-Indus; Rich kúlu, bankúnch, Jhelum;
Richabi, kilmich, gúch, Kashmir; Bathor, pápat, kalam, khímor, rájal,
tumma, Chenab; Kátonda, Ravi; Jawa, khatip, tústús, sússú,
Sutlej; Gwia, guya, Kumaun. 1030 A large deciduous shrub met within the Sulaiman Range, North-West Himalaya, between 4,000 and 11,000 feet. Wood white, hard to very hard, close-grained. $\{5^2.\}$ Nagkanda, Simla, 8,000 feet. H 76. Mashobra, 7,000 ,, V. erubescens, Wall. 1031 Vern. – Gånné, asari, Nepal; Kancha, Lepcha; Nakouli, damshing, BHUTIA. A small tree of the Himalaya from Kumaun to Bhutan, between 5,000 and 11,000 feet; Nilgiris and Čeylon. Wood very hard, reddish, close and even-grained. Weight 50 lbs. per cubic foot. It might do as a substitute for boxwood and for carving. Used for house-posts in Sikkim. E #384. Rangbúl, Darjeeling, 7,000 feet

VITEX.	
1032	Viburnum fætens, Decaisne.
-0,5	Vern.—Gúch, úklu, kúnch, JHELUM; Kilmich, gúch, kwillim, kulára, jamára, KASHMIR; Tilhanj, þúlmu, tiláts, túin, CHENAB;, Talhang, tandei, túndhe, túnáni, senáni, RAVI; Talhang, fialain, tselain, thilkain, SUTLEJ; Guya, KUMAUN.
	A large shrub of the North-West Himalaya, from 5,000 to 11,000 feet.
,	Wood white, hard to very hard, close-grained; similar in appearance and structure to that of V. cotinifolium. Weight 53 lbs, per cubic foot.
	H 53. Nagkanda, Simla, 8,000 feet 53
	H 2886. ,, ,, ,,
	H 3015. Matiyana " " "
1033	V. lutescens, Bl.
•	A large shrub met with in Terai and Lower Hills of Sikkim, Assam, Khásia Hills, in damp ever-green forests. Wood reddish, soft. E 3273. Muraghát Reserve, W. Dúars.
1034	V. Mullaha, Ham.
1034	Syn.—V. STELLULATUM, Wall.
•	Vern Jal bagu, IHELUM; Amliacha, phulsel, KASHMIR: Lal tit-
	maliya, Kumaun; Eri, ira, Simla. A shrub of the North-West Himalaya from 6,000 to 10,000 feet.
	Wood white, moderately hard.
	H 2834. The Glen, Simla, 6,000 feet. H 2866. Nagkanda, ,, 8,000 ,,
	11 2000. Wagkanda, ,, 0,000 ,,
G^{*}	VILLEBRUNEA.
1035	Villebrunea frutescens, Bl., URTICACEE.
	Syn.—Urtica frutescens, Thumb
	Vern.—Gar tashiara, poidhaula, kagshi, Kumaun; Kirma, Nepal; Tak- bret, Lepcha.
=:	A shrub or small tree of Himalaya, from Simla eastwards, Sikkim.
-	Bhutan and Assam, ascending to 5,000 feet. Wood brown, moderately hard.
	H 3130. Simla, 5,000 feet.
	VITEX.
1036	Vitex alata, Roxb., Verbenacez.
	Syn.—V. peduncularis, Wall.
	Vern.—Osai, Ass.; Boruna, goda, Beng.; Krawru, Magh; Hila auwal, Cachar; Shelangri, Garo; Kyetyo, Burm.
	A tree met with in Assam, Chittagong, and Burma
	Wood purplish or reddish grey, heavy, hard, close-grained. Weight
;	60 lbs. per chic feet. Used in Cachar for posts and beams; in the Gáro Hills for sugal -cane crushers.
	E 784. Kámrúp, Assam
•	E 1393. Chittagong 60
	B 1423. Tharrawaddi, Burma
	254

	· VITEX.
Vitex altissima, Linn.	1037
Vern.—Ahay, Ass.; Simyanga, gua, Kol.; Maila, Tam.; Myrole, balgay, nauladi, sampaga-pala, Kan.; Banalgay, Mar.; Milille, Cingh. A large ree of Bengal, South India, and Ceylon. Wood grey with a tinge of olive-brown, hard, close-grained, polishes well. Weight 53 lbs. per cubic foot. It is used for building and for carts, and deserves attention. W 724. South Kanara	
Nos. 54 (56 lbs.) and 78 (49 lbs.) Ceylon Collection	* 000
V. leucoxylon, Linn. f.	1038
Syn -V. SALIGNA, Roxb. VernGoda, horina, ashwal, Beng.; Luki, neva-ledi, Tel.; Sengeni, karril, Kan.; Tokra, Magh.; Longarbi thiras, Mar.; Htouksha, Burn. A very large deciduous tree of Chittagong, Burma, Andaman Islands, and South India. Wood grey with a satiny lustre, hard, close-grained, durable. Weight about 42 lbs. per cubic foot. It is used for cart-wheels, and deserves attention for furniture and other purposes. E 1392. Chittagong B 330. Burma (1867) B 2549 B 2711. Tavoy (Wallich, 1828) B 2218. Andaman Islands (1866) Luki, neva-ledi, Tel.; Sengeni. Luki, neva-ledi,	
V. Negundo, Linn.	1039
Vern.—Marwan, moráun, máura, mora, wana, banna, torban, biuna. Ph.; Shiwari, shawáli, nengar, mewri, newri, nisindo, Hind.; Begguna, URIYA; Ehúri, Kol.; Sindwar, Kharwar; Samalu, Monghyr; Nirgunda, nigúr, Mar.; Nirgiri. Gond; Nirgudi, Kurku; Vella-nuchi Tam.; Veyala, Tel.; Lakki, Kan.; Súdú nika, Cingh. A deciduous shrub, common in the drier parts of India, aud ascending to 3,000 feet in the North-West Himalaya. Wood greyish-whife, hard. Weight 42 lbs. per cubic foot. The branches are used for wattle-work. H. 3044. Kumharsen, Sutlej Valley 41	A
V. pubescens, Vahl.	1040
Syn.—V. ARBOREA, Roxb. Vern.—Muria, URIYA; Nowli eragu, búsi, Tel.; Myladi, Tam.; Kyet-yoh, Burm. A large tree of South India, Burma, and the Andaman Islands. Wood smooth, grey, with an olive-brown tinge, very hard, close-grained. Weight about 53 lbs. per cubic foot. It is durable, and is used for various purposes in South India. D 1058. South Arcot, Madras D 1063. Cuddapah B 1429. Tharrawaddi, Burma B 2550. Burma (1862) No. 10. Ceylon Collection [marked V. altissima (Caha milille)] G 3550. Khurda Forests, Orissa 255	
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1041	Ve A ha far west	e rn. — <i>K</i> indsøm	icha, 7.,2 atong, Lerci e palm of t maun.	ia.		of Sı	kkim	, found	A by		dis a:
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f++	Wood	i yellov	vish white,	hard, clo	se-gr	ained	W	eight s	57 11	bs. per d	oldu:
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	It is s	3579.	Ceylon Col Khurda Fo		•	: •		:	:	57	
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•	It is s	3579.	Khurda Fo	orests	•	: •	•	:	*	•••	
-	It is s	3579.	Khurda Fo		.ANI	DIA,	•	•	*	•••	
1044	Wendlan Syr Ver	3579. 3520. dia ex n.—W fn.—Ch	WI ESERTA, DO CINEREA, DO GUILA: (hila, mri, NEPAL)	ENDL C, Rubi chilkiya Kursi,	ACEÆ CLETIA , tila, SŁONI	EXSFF birsa, Mar	tilki ria, (, tilai,		IND ; Ka	
¥044	Wendlan Syr A sma eastwards Wood foot.	dia exam.—W m.—Chalks, ms m MANI Ill decis, Oudl regdis	WI RSERTA, DO CINEREA, DO aulas chila, mri, NEPAL, bla. duous tree n, Bengal, Ch-brown, ha	ENDL C, RUBI chilkiya Kursi, chitral a chitch cost	ACEA tila, tila, Shoni sub-H and So e-grai	birsa; birsa; Mar imala outher ned.	yan t n Ind Wei	, tilan, SOND, ract fr na. ght 47	om Ib	ind; Kallah, BA	nab ubic
¥044	Wendlan Syr Ver A sma eastwards Wood foot. Used in the Sik	dia example of the state of the	WI KSERTA, DO CINEREA, DO aulas chila, mri, NEPAL, bla. duous tree n, Bengal, Ch-brown, ha ulding and	ENDL C, RUBI C, RUBI Chilkiya Kursi, S central a rd, clos agricult	ACEA tila, tila, Shoni sub-H and So e-grai	birsa; birsa; Mar imala outher ned.	yan t n Ind Wei	, tilan, SOND, ract fr na. ght 47	om lb: for	ind; Kallah, BA	nab ubic

Vern.—Ramenridelle, CINGH. A small tree of South India and Ceylon. Wood rest, and similar in structure to that of W. exserta. No. 24. Ceylon collection (marked W. bicuspidata) WIGHTIA. Vightia gigantea, Wall., Scrophularine. Vern.—Lakori, Nepal; Bob, Lepcha. A huge epiphytic tree of the hill forests of Sikkim and Bhutan, from 3,000 to 7,000 feet, which climbs by sending our horizontal, stem-clasping, aerial roots yound the stem of the tree on which it grows, and it often shews its masses of pink flowers above the summit of the latter. Wood white, light, moderately soft, porous; but does not warp. The wood is used to make Buddhist idols, E 3323. Rangirúm, Darjeeling 6,000 feet. WOODFORDIA. Voodfordia filoribunda, Salkb, Lethrace. Syn.—W. Tomentos, Beddome; W. Fruitcosa, Kurb.; Grislea to-Mentosa, Korb. Vern.—Dámi, thawi, southon, dhaula, Hind., Gul daur, Kangra; Dhai, Kumaun; Dhewit, Dubui, Burdirin, C. P. Wittin, petistroli, surveying, Gong; Dhewit, Dubui, Burdirin, C. P. Wittin, petistroli, surveying, Gong; Dhewit, Dubui, Burdirin, C. P. Wittin, petistroli, surveying, Gong; Dhewit, Dubui, Burdirin, C. P. Wittin, petistroli, surveying, Gong; Dhewit, Dubui, Burdirin, C. P. Wittin, petistroli, surveying, Gong; Dhewit, Dubui, Burdirin, C. P. Wittin, petistroli, surveying, Gong; Dhewit, Dubui, Burdirin, C. P. Wittin, petistroli, surveying, Gong; Dhewit, Dubui, Burdirin, C. P. Wittin, petistroli, surveying, Gong; Dhewit, Dubui, Burdirin, C. P. Wittin, petistroli, surveying, Gong; Dhewit, Dubui, Burdirin, C. P. Wittin, petistroli, surveying, Gong; Dhewit, Dubui, Burdirin, C. P. Wittin, petistroli, surveying, Gong; Dhewit, Dubui, Burdirin, C. P. Wittin, petistroli, surveying, Gong; Dhewit, Burdirin, C. P. Wittin, petistroli, surveying, Gong; Dhewit, Burdiri, C. P. Wittin, petistroli, surveying, Gong; Dhewit, Burdiri, C. P. Wittin, petistroli, surveying, Gong; Dhewit, Burdiri, C. P. Wittin, petistroli, surveying, Gong; Dhewit, Burdiri, C. P. Wittin, petistroli, surveying, Gong; Dhewit, Burdiri, C. P. Wittin,	VI
Vern.—Rameneidelle, Cingh. A small tree of South India and Ceylon. Wood resk and similar in structure to that of W. exserta. No. 24. Ceylon collection (marked W. bicuspidata) 48 WIGHTIA. Vern.—Lakori, Nepal.; Bop, Lepcha. A huge epiphytic tree of the hill forests of Sikkim and Bhutan, from 3,000 to 7,000 feet, which climbs by sending out horizontal, stem-clasping, aerial rootsound the stem of the tree on which it grows, and it often shews its masses of pink flowers above the summit of the latter. Wood white, light, moderately soft, porous; but does not warp. The wood is used to make Buddhist idols. E 3323. Rangirúm, Darjeeling 6,000 feet. WOODFORDIA. //Oodfordia floribunda, Salab, Lethrace. Syn.—W. tomintost Beddome; W. fruticosa, Kurs.; Grislea tomentosa, Rosh. Vern.—Dáwi, thawi, sautha, dhaula, Hind.; Gul daur, Kangra; Dhai, Kuman; Dhewii, Oudh; Blumij; Harwari, jalika, Urina, Khimi, dhi, Kurku; Dakir, Blumij; Harwari, jalika, Urina, Khimi, dhi, Kurku; Dakir, Illumij; Harwari, jalika, Urina, Khimi, dhi, Kurku; Dakir, Illumij; Harwari, jalika, Urina, Khimi, dhi, Kurku; Dakir, Illumij; Harwari, jalika, Urina, Khimi, dhi, Kurku; Dakir, Illumij; Harwari, jalika, Urina, Khimi, dhi, Kurku; Dakir, Mulmij; Harwari, jalika, Urina, Khimi, dhi, Kurku; Dakir, Illumij; Harwari, jalika, Urina, Khimi, dhi, Kurku; Dakir, Illumij; Harwari, jalika, Dirina, Khimi, dhi, Kurku; Dakir, Bulmij; Harvi, Palumij; Harvi	ITLA
A small tree of South India and Ceylon. Wood ret, and similar in structure to that of W. exserts. No. 24. Ceylon collection (marked W. bicuspidata) 48 WIGHTIA. Vern.—Lakori, Nepal; Bop, Lepcha. A huge epiphytic tree of the hill forests of Sikkim and Bhutan, from 3,000 to 7,000 feet, which climbs by sending our horizontal, stem-clasping, aerial roots wound the stem of the tree on which it grows, and it often shews its masses of pink flowers above the summit of the latter. Wood white, light, moderately soft, porous; but does not warp. The wood is used to make Buddhist idols. E 3323. Rangirúm, Darjeeling 6,000 feet. WOODFORDIA. Voodfordia floribunda, Salab, Lethracee. Syn.—W. tomnntost Beddome; W. eruticosa, Kurs.; Grislea tomenosa, Roxb. Vern.—Dómi, thawi, sautha, dhaula, Hind.; Gul daur, Kangra Dhai, Kuman; Dhawi, surthiri, C. P.; viffut, petiswrali, surteyli, Gond; Irha, Koll.; Dauki, Bluumi; Harweri, juliko, Uriva, Khimi, dha. Kunku; Dauki, Induari, C. P.; viffut, petiswrali, surteyli, Gond; Irha, Koll.; Dauki, Bluumi; Harweri, juliko, Uriva, Khimi, dha. Kunku; Dauki, Bluumi; Alarweri, juliko, Uriva, Khimi, dha. Kunku; Dauki, Bluumi; Alarweri, juliko, Uriva, Khimi, dha. Kunku; Daukir, Indualian, Nepal; Chungkyek dum, Lepuha; Jargi, Tel.; Phulsatti, Mar.; Datti, Bhill. A large shrub common throughout India, ascending to 5,000 feet in the Himalayas. Wood reddish-white, haid, close-grained. Weight about 46 lbs. per cubic foot. C 2704. Melghát, Berar E 876. Chenga Eurest, Darjeeling Terai WORMIA. Vormia triquetra, Rotth, Dilleniace. Vern.—Diyapara, Cinch. Found in Ceylon up to 2,000 feet. Wood reddish in structure, resembling that of Dillenia. Weight 44 lbs. per cubic foot. It is used for building. No. 22. Ceylon Collection WRIGHTIA. Vigittia tinctoria, R. Br., Apocynacee. Syn.—Nerium tinctorial, R. &r.	
Wood rest and similar in structure to that of W. exserts. No. 24. Ceylon collection (marked W. bicuspidata) WIGHTIA. WIGHTIA. Indextruction of the structure, resembling that of Dillenia. Weight 44 WORMIA. Vern.—Diyapara, Cingu. Found in Ceylon up to 2,000 feet. WORMIA. Vern.—Diyapara, Cingu. Found in Ceylon up to 2,000 feet. WORMIA. Vern.—Diyapara, Cingu. Found in Ceylon up to 2,000 feet. WORMIA. Vern.—Diyapara, Cingu. Found in Ceylon up to 2,000 feet. WORMIA. Vern.—Diyapara, Cingu. Found in Ceylon collection WRIGHTIA. Vigitat a tinctoria, R. Br., Apocynace. Syn.—Nerium theorems. Apacynace. Syn.—Nerium theororium, Road.	
WIGHTIA. Vern.—Lakori, Nepal; Bob, Lepcha. A huge epiphytic tree of the hill forests of Sikkim and Bhutan, from 3,000 to 7,000 feet, which climbs by sending out horizontal, stem-clasping, terial roots cound the stem of the tree on which it grows, and it often shews its masses of pink flowers above the summit of the latter. Wood white, light, moderately soft, porous; but does not warp. The wood is used to make Buddhist idols. E 3323. Rangirúm, Darjeeling 6,000 feet. WOODFORDIA. Codfordia floribunda, Salab., Lethracee. Syn.—W. Tomentos. Beddome; W. Fruticosa, Kurz.; Grislea tomentosa, Rost. Vern.—Dáwi, thawi, sautha, dhaula, Hind.; Gul daur, Kangra; Dhai, Kumani, Dhewi, Oudhi; Jahin, Sulmij; Arwari, jatiko, Uriya, Khimi, dhi, Kurku; Dahiri, Indairo, Nepal; Chingkyek dum, Lepcha; Jria, Kou.; Dahis, Islumij; Harwari, jatiko, Uriya, Khimi, dhi, Kurku; Dahiri, ladairo, Nepal; Chingkyek dum, Lepcha; Jria, Kou.; Hussatti, Mar.; Datti, Bhild. A large shrub common throughout India, ascending to 5,000 feet in the Himalayas. Wood reddish-white, haid, close-grained. Weight about 46 lbs. per subic foot. C 2704. Melghát, Berar E 876. Chenga Eurest, Darjeeling Terai WORMIA. Vormia triquetra, Rotth., Dilleniacee. Vern.—Diyapara, Cingh. Found in Ceylon up to 2,000 feet. Wood reddish in structure, resembling that of Dillenia. Weight 44 lbs. per cubic foot. It is used for building. No. 22. Ceylon Collection WRIGHTIA. Vigitata tinctoria, R. Br., Apocynacee. Syn.—Nerium Tinctorium, Rozb.	
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Vern.—Lakori, Nepal; Bop, Lepcha. A huge epiphytic tree of the hill forests of Sikkim and Bhutan, from 3,000 to 7,000 feet, which climbs by sending out horizontal, stem-clasping, herial roots wound the stem of the tree on which it grows, and it often thews its masses of pink flowers above the summit of the latter. Wood white, light, moderately soft, porous; but does not warp. The wood is used to make Buddhist idols. E 3323. Rangirúm, Darjeeling 6,000 feet. WOODFORDIA. Coodfordia floribunda, Salsb., Letherce. Syn.—W. tomentos. Beddome; W. fruticosa, Kurs.; Grislea tomentosa, Roxb. Vern.—Dawi, thawi, sautha, dhaula, Hind.; Gul daur, Kangra; Dhai, Kumaun; Dheati, Oudh; bhuwi, sartári, C. P.; Pitta, petisurali, surtevit, Gond; Irha, Kurku; Dahiri, Idadairo, Nepal; Chungkyek dum, Lepula; Jargi, Tel.; Phulsatti, Mar.; Datti, Bhill. A large shrub common throughout India, ascending to 5,000 feet in the Himalayas. Wood reddish-white, hard, close-grained. Weight about 46 lbs. per cubic foot. C 2704. Melghát, Berar B 876. Chenga Eorest, Darjeeling Terai WORMIA. Cormia triquetra, Rotth., Dilleniace. Vern.—Diyapara, Cingh. Found in Ceylon up to 2,000 feet. WOOM reddish in structure, resembling that of Dillenia. Weight 44 lbs. per cubic foot. It is used for building. No. 22. Ceylon Collection WRIGHTIA. Vigiatia tinctoria, R. Br., Apocynace. Syn.—Nerium Tincrorium, Rozh.)
A huge epiphytic tree of the hill forests of Sikkim and Bhutan, from 3,000 to 7,000 teet, which climbs by sending out horizontal, stem-clasping, terial roots found the stem of the tree on which it grows, and it often thews its masses of pink flowers above the summit of the latter. Wood white, light, moderately soft, porous; but does not warp. The wood is used to make Buddhist idols, E 3323. Rangirúm, Darjeeling 6,000 feet. WOODFORDIA. Oodfordia floribunda, Salab, Letherce. Syn.—W. Tomentost, Beddome; W. Fruticosa, Kurs.; Grislea tomentosa, Rorb. Vern.—Dáwi, thawi, sautha, dhaula, Hind.; Gul daur, Kangra; Dhai, Kumaun; Dhewit, Oudh; Dhwvi, surlári, C. P.; Pilita, petisurali, surtívij, Gond, Icha, Kursu; Dahiri, ladairo, Nepal.; Chungkyek dum, Leecha; j'argi, Tel.; Phulsatti, Mar.; Datti, Bhill. A large shrub common throughout India, ascending to 5,000 feet in the Himalayas. Wood reddish-white, haid, close-grained. Weight about 46 lbs. per cubic foot. C 2794. Melghát, Berar E 876. Chenga Eorest, Darjeeling Terai WORMIA. Tormia triquetra, Rotth, Dilleniace. Vern.—Diyapara, Cingh. Found in Ceylon up to 2,000 feet. Wood reddish in structure, resembling that of Dillenia. Weight 44 lbs. per cubic foot. It is used for building. No. 22. Ceylon Collection WRIGHTIA. Trigitatia tinctoria, R. Br., Apocynace. Syn.—Nerhum tinctorium, Roxb.	
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Wood white, light, moderately soft, porous; but does not warp. The wood is used to make Buddhist idols, E 3323. Rangirúm, Darjeeling 6,000 feet. WOODFORDIA. Coodfordia floribunda, Salab, Lethracee. Syn.—W. tomentos, Beddome; W. fruticosa, Kure.; Grislea tomentosa, Roxb. Vern.—Dáwi, thawi, sautha, dhaula, Hind.; Gul daur, Kangra; Dhai, Kumaun; Dhewti, Oudh; Dhuwi, surtári, C. P.; Pitta, petisurali, surteyli, Gonn; Irha, Kol.; Dadki, Biumij; Harwari, Jatiko, Uriya; Khinni, dhi, Kurku; Dadkir, Iaddaro, Nepal; Chungkyek dum, Lepcha; Jargi, Tel.; Phulsatit, Mar.; Datti, Bhill. A large shrub common throughout India, ascending to 5,000 feet in the Himalayas. Wood reddish-white, haid, close-grained. Weight about 46 lbs. per cubic foot. C 2794. Melghát, Berar E 876. Chenga Ecrest, Darjeeling Terai WORMIA. Cormia triquetra, Rottb., Dilleniacee. Vern.—Diyapara, Cingh. Found in Ceylon up to 2,000 feet. Wood reddish in structure, resembling that of Dillenia. Weight 44 lbs. per cubic foot. It is used for building. No. 22. Ceylon Collection WRIGHTIA. Vigitia tinctoria, R. Br., Apocynacee. Syn.—Nerium tinctorium, Roxb.	
The wood is used to make Buddhist idols, E 3323. Rangirúm, Darjeeling 6,000 feet. WOODFORDIA. Syn.—W. Tonkintos Beddome; W. Fruticosa, Kurs.; Grislea tomentosa, Roxb. Vern.—Dáwi, thawi, sautha, dhaula, Hind.; Gul daur, Kangra; Dhai, Kumaun; Dhewi; Oudh; Dhuwi, surtári, C. P.; Pitta, petisurali, surtariyi, Gong; Irha, Koue.; Dadkir, Bulumij; Harwani, jatiko, Usiya; Khimii, dhi, Kurku; Dahiri, ladairo, Nepal.; Chungkyek dum, Lepcha; Jargi, Tel.; Phulsatti, Mar.; Datti, Bhil. A large shrub common throughout India, ascending to 5,000 feet in the Himalayas. Wood reddish-white, haid, close-grained. Weight about 46 lbs. per cubic foot. Bbs. C 2794. Melghát, Berar E 876. Chenga Eurest, Darjeeling Terai WORMIA. WORMIA. Tormia triquetra, Rotth., Dilleniacee. Vern.—Diyapara, Cingh. Found in Ceylon up to 2,000 feet. Wood reddish in structure, resembling that of Dillenia. Weight 44 bs. per cubic foot. It is used for building. No. 22. Ceylon Collection WRIGHTIA. Vrightia tinctoria, R. Br., Apocynacee. Syn.—Nerium tinctorium, Roxb.	
WOODFORDIA. Coodfordia floribunda, Salab., Lethracee. Syn.—W. Tomentos. Beddome; W. Fruticosa, Kurz.; Grislea tomentosa, Rozb. Vern.—Diwi, thawi, sautha, dhaula, Hind.; Gul daur, Kangra; Dhai, Kumaun; Dhewi, Oudh; Dhuwi, surtari, C. P.; Pitta, petisurali, surtyli, Gong; Irha, Kol; Dudki, Buumij; Harwari, jatiko, Uriva; Khimis, dhi, Kurku; Dahki, laddiro, Neemal.; Chungkyek dum, Lepcha; Jargi, Tel.; Phulsatti, Mar.; Datti, Bhil. A large shrub common throughout India, ascending to 5,000 feet in Himalayas. Wood reddish-white, hard, close-grained. Weight about 46 lbs. per cubic foot. C 2704. Melghát, Berar E 876. Chenga Eurest, Darjeeling Terai WORMIA. Cormia triquetra, Rottb., Dilleniacee. Vern.—Diyapara, Cingh. Found in Ceylon up to 2,000 feet. Wood reddish in structure, resembling that of Dillenia. Weight 44 lbs. per cubic foot. It is used for building. No. 22. Ceylon Collection WRIGHTIA. Vigittia tinctoria, R. Br., Apocynacee. Syn.—Nerium Tinctorium, Roxb.	
Oodfordia floribunda, Salab., Lethracee. Syn.—W. tomkntos', Beddome; W. fruticosa, Kure.; Grislea tomentosa, Roxb. Vern.—Dáwi, thawi, sautha, dhaula, Hind.; Gul daur, Kangra; Dhai, Kumaun; Dhewi, Oudh; Dhuwi, surtári, C. P.; Pitta, fetisurali, surtevil, Gondy; Irha, Kol.; Dadki, Biumij; Harwari, jatika, Uriva; Khinni, dhi, Kurku; Dahiri, latdairo, Nepal; Chingkyek dum, Lepcha; Jargi, Tel.; Phulsatti, Mar.; Datti, Bhill. A large shrub common throughout India, ascending to 5,000 feet in the Himalayas. Wood reddish-white, haid, close-grained. Weight about 46 lbs. per cubic foot. C 2794. Melghat, Berar 46 E 876. Chenga Ecrest, Darjeeling Terai 46 WORMIA. Vormia triquetra, Rotth, Dilleniacee. Vern.—Diyapara, Cingh. Found in Ceylon up to 2,000 feet. Wood reddish in structure, resembling that of Dillenia. Weight 44 lbs. per cubic foot. It is used for building. No. 22. Ceylon Collection 44 WRIGHTIA. Vightia tinctoria, R. Br., Apocynacee. Syn.—Nerium tinctorium, Roxb.	
Syn.—W. TOMENTOS. Beddome; W. FRUIICOSA, Kurs.; GRISLEA TOMENTOSA, Roxb. Vern.—Dáwi, thawi, sautha, dhaula, HIND.; Gul daur, KANGRA; Dhai, KUMAUN; Dhewti, Oudh; Dhuwi, surtari, C. P.; Nitta, petisurali, surtavii, Gond; Icha, Koll.; Dadki, Bilumij; Harwari, jatiko, Uriya; Khiuni, dhi, Kurku; Dahiri, laddairo, Nepal.; Chungkyek dum, Lepcha; Jargi, Tell.; Phulsatti, MAR.; Datti, Bhill. A large shrub common throughout India, ascending to 5,000 feet in Himalayas. Wood reddish-white, haid, close-grained. Weight about 46 lbs. per cubic foot. C 2704. Melghát, Berar 46 E 876. Chenga Eurest, Darjceling Terai WORMIA. Vormia triquetra, Rotth., DilleniaCer. Vern.—Diyapara, Cingh. Found in Ceylon up to 2,000 feet. Wood reddish in structure, resembling that of Dillenia. Weight 44 lbs. per cubic foot. It is used for building. No. 22. Ceylon Collection WRIGHTIA. Vightia tinctoria, R. Br., Apocynacer. Syn.—Nerium tinctorium, Roxb.	
Vern.—Dáwi, thawi, sautha, dhaula, HIND.; Gul daur, KANGRA; Dhai, KUMAUN; Dhewii, OUDH; Dhuwi, surtári, C. P.; Pitta, petisurali, surteyli, Gond; Icha, Kol.; Dadki, Bhumij; Harwari, jatiko, URIYA; Khimi, dhi, KURKU; Dahiri, laidairo, Nepal.; Chungkyek dum, Lepcha; fargi, Tel.; Phulsatti, MAR.; Datti, Bhill. A large shrub common throughout India, ascending to 5,000 feet in the Himalayas. Wood reddish-white, hard, close-grained. Weight about 46 lbs. per cubic foot. C 2704. Melghát, Berar B 876. Chenga Farest, Darjeeling Terai WORMIA. Vormia triquetra, Rotth., Dilleniacee. Vern.—Diyapara, Cinch. Found in Ceylon up to 2,000 feet. Wood reddish in structure, resembling that of Dillenia. Weight 44 bs. per cubic foot. It is used for building. No. 22. Ceylon Collection WRIGHTIA. Vightia tinctoria, R. Br., Apocynacee. Syn.—Nerium tinctorium, Roxb.	,
Vern.—Dáwi, thawi, sautha, dhaula, HIND.; Gul daur, KANGRA; Dhai, KUMAUN; Dhewti, OUDH; Dhuwi, surtári, C. P.; Pitta, petisurali, surteyli, Gond; Icha, Kol.; Dadki, Bilumij; Harwari, jatiko, URIYA; Khimai, dhi, Kurku; Dahiri, latdairo, Nepal; Chungkyek dum, Lepcha; Jargi, Tel.; Phulsatti, Mar.; Datti, Bhil. A large shrub common throughout India, ascending to 5,000 feet in the Himalayas. Wood reddish-white, hard, close-grained. Weight about 46 lbs. per cubic foot. C 2794. Melghát, Berar E 876. Chenga Eurest, Darjceling Terai WORMIA. Vormia triquetra, Rotth., Dilleniacee. Vern.—Diyapara, Cingh. Found in Ceylon up to 2,000 feet. Wood reddish in structure, resembling that of Dillenia. Weight 44 lbs. per cubic foot. It is used for building. No. 22. Ceylon Collection WRIGHTIA. Vightia tinctoria, R. Br., Apocynacee. Syn.—Nerium tinctorium, Roxb.	_
KUMAUN; Dhewti, Oudh; Dhuwi, surtari, C. P.; Pitta, petisurali, surteyli, Gond; Irha, Kol.; Dadki, Bhumij; Harwari, jatiko, Uriva; Khimi, dhi, Kurku; Dahiri, latdairo, Nepal; Chungkyek dum, Lepcha; Jargi, Tel.; Phulsatti, Mar.; Datti, Bhil. A large shrub common throughout India, ascending to 5,000 feet in the Himalayas. Wood reddish-white, hard, close-grained. Weight about 46 lbs. per cubic foot. C 2794. Melghát, Berar E 876. Chenga Ecrest, Darjeeling Terai WORMIA. Vormia triquetra, Rotth., Dilleniacee. Vern.—Diyapara, Cingh. Found in Ceylon up to 2,000 feet. Wood reddish in structure, resembling that of Dillenia. Weight 44 lbs. per cubic foot. It is used for building. No. 22. Ceylon Collection WRIGHTIA. Vrightia tinctoria, R. Br., Apocynacee. Syn.—Nerium tinctorium, Roxb.	1
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No. 22. Ceylon Collection	
No. 22. Ceylon Collection	
rightia tinctoria, R. Br., Apocynaceæ. Syn. – Nerium tinctorium, Roxb.	
Syn Nerium Tinctorium, Roxb.	
Syn Nerium Tinctorium, Roxb.)
MARK	•
Kala kúdú, MAR.	

	-	_	_
PETT	•		

Wood moderately hard, close-grained. Weight about 49 lbs. per cubic foot.

It is used for carving and turning.

1050

Wrightia tomentoşa, Rom. & Sch.

Syn -W. Mollissima, Wall.; NFRIUM TOMENTOSUM, Roxb.

Vetn.—Keor, kıláwa, PB.; Dudhı, dharaulı, daira, HIND.; Karingi-kırra, NFPAL; Sandikuyı, Kol.; Dudhi-koraiya, Monghyr; Selemnyok; Lepcha; Pal kurwan, Uriva; Harido, Cultack; Tella pal, koila-mukri, Tel.; Kala inderjan, Mar.; Athuri, Ass., Lettouk thein, Burm.

A small deciduous tree of the sub-Himalayan tract from 'he Beas eastwards, Oudh, Bengal, Burma, Central and South India.

Wood yellowish white, moderately hard, close-grained. Weight about 44'5 lbs. per cubic foot

It is used for turning and carved work.

C 830.	Bairagarh Reserve, Berar .		105. 41
W 998,	Poona		48
W 994.	Sahyadrı Ghâts, Ahmednagar	•	49
Ł 023.	Rakti Forest, Darjeeling Terai		40

XYLIA.

Xylia dolabriformis, Benth., LEGUMINOSE.

THE IRON-WOOD TREE OF PEGU and ARRACAN.

Syn.—Mimosa xylocaria, Roxb.; Inga xylocarpa, DC.

Vern.—Jambu, HIND; Jamba, suria, MAR; Boja, Longora, URIYA; Irul,
TAM.; Konda tangedu, tangedu, eruvalu, bojeh, Tel.; Jambe, tirawa
KAN; Shilve, Coorg; Pjikado, Burm.

A large deciduous tree, met with in the Chanda District, South India, Arracan, and Burma.

Sapwood small; heartwood dark-brown or reddish-brown, extremely hard, beautifully mottled, cross-grained. The wood is very durable—a property it doubtless owes in great measure to the resinous substance contained in it. Weight about 65 lbs. per cubic foot.

It is used for boat-building and for agricultural implements in Burma; also for carts and tool handles. In South India, it is used for railway sleepers, posts, boat-building and carts. In Burma and Bengal it has been largely used for telegraph posts, for which it has answered well. The large forests in Arracan, of which Dr. Schlich in his report on the iron-wood forests of Arracan, dated ist September 1869, says that "a third of the forest vegetation consists of Pynkado," produce large numbers of telegraph poles and railway sleepers. Major Seaton in his report for 1876-77 said that 10,000 such sleepers from Arracan had then lately been sold at Calcuttia at Rs. 5 each, and Mr. Ribbentrop's Report states that Pynkado pieces and sleepers are brought out from the forests in Peru. It is hard, heavy, and difficult to cut, but a useful wood for piles and beams of bridges.

С	L151.	Ahiri I	Reserve,	Central	Prov	ınces	•		1bs. 59
W	754.	South.	Kanara	•	•	•	•	•	59
W	761. 6	"	,,	•	•	•	•	•	61
W	857.	,,	"	•	•	•	•	•	01

258

lbs. W 1222. North Kanara 62	ZANTHOX- YLUM.
B 805. Tharrawaddi, Burma 67 B 3066. Burma (1862) 66 B 1.51. Tavoy (Wallich, 1828) 62	
C.3514. Khurda Forests, Orissa 54 C.3546 , , , ,	
XYLOSMA.	
•	
Xylosma longifolium, Clos., BIXINEÆ. Vern.—Chopra, chirúndi, chirndi, drendu, PB.; Kattúwa, OUDH; Dan dúl, katúri, kandhara, HIND.	1052
A small evergreen tree of the North-West Himalaya ascending t	
Wood pinkish, moderately hard, even-grained. Weight 55 lbs. pg cubic foot. It is used for fuel and charcoal.	x • · · ·
ht is used for fuel and charcoal. • lbs. H 2947. Jander, Sutlej Valley, 3,500 feet 55	
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ZANTHOXYLUM.	-
Zanthoxylum acanthopodium, DC., Rutaceæ. Vern.—Bogay timur, Nepal.	1053
A small tree of the outer Himalaya from Kumaun to Sikkim, an the Khásia Hills, up to 7,000 feet. Wood yellowish white, soft.	d
E 3415. The Park, Darjeeling, 6,500 feet.	1 18
Z. alatum, Roxb. Vern.—Timbur, timur, tesmal, durmur, Hind.; Balay timur, Nepal	1054
Gaira, Monghyr.; Sungrá, Lepcha. A shrub or small stree of the outer Himalaya from the Indus 1	ļ
Bhutan, ascending to 7,000 feet; Khásia Hills. Wood close-grained, yellow. It is used for walking-sticks, and the small branches for cleaning the	
teeth.	
H 107. Bhajji, Simla, 4,000 feet	•
Z. Budrunga, DC.	1055
Vern.—Brojonali, Ass.; Mayaning, Burm. A tree of the Eastern Himalaya, Khásia Hills, Eastern Bengal, an	
Burma. Wood moderately hard, close-grained, white.	u
E 3324. Pankabari, Darjeeling, 2,000 feet.	
Z. Hamiltonianum, Wall.	1056
Vern,—Purpuray timur, NEPAL. A climbing thorny shrub of Sikkim and Assam.	
Wood yellowish white, soft. E 3416. The Park, Darjeeling, 6,500 feet.	•
- 174101 7 110 7 2111 721 12211121 011100 10011	1

izyyhus.	
1057	Zanthoxylum ovalifolium, Wight. A shrub of Eastern Himalaya, Khásia Hills, Assam, and the Western
	Ghâts. Wood light yellowish-white, very hard, close-grained.
	E 3356. Sivoke Hills, Darjeeling, 1,500 feet 54
1058	Z. oxyphyllum, Edgezo. Vern.—Timur, NEPAL.
	A climbing shrub of the Himalaya from Garhwal to Bhutan, from 6,000 to 8,000 feet; Khásia Hills, 4,000 to 6,000 feet. Wood yellowish-white, soft, porous. E 3375. Darjeeling, 6,500 feet.
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	ZIŻYPHUS.
1059	Zizyphus Jujuba, Lam., Rhamner.
	Vern — B/r, baer, beri, Hind.; Kál, b'r, Beng.; Zeeben, Burm; Rengha. regi, Tel.; Yellande, Tam.; Bhor, Mar.; Renga, Bhii; Elentha, Mal., Yelkhi, Kan.; Jibang, Magh; Yellantha, Madura; Framjan, Kol.; Ringa, Gond; Bor, Baigas; Bogri, Rujbansi.
	A moderate sized deciduous tree almost evergreen, cultivated throughout India and Burma; its original habitat doubtful. Wood hard, reddish; no heartwood. Weight, about 52 fbs. per cubic
	foot.
	Used for saddletrees and agricultural implements, oil-mills, and other purposes.
	ll)s.
(O 265. Garhwal (1868)
ļ	C 1128. Ahiri Reserve, Central Provinces 43 D 1071. North Arcot, Madras 52
	P 885, from Multan, sent under the name of Z. flexuosa , has the
	same structure as Z. Jujuba, but the pores are round and moderate- sized. Weight, 48 lbs.
rogo	Z. nummularia, W. & A.
	Syn.—Z. Microphylla, Roxb. Vern.—Karkanna, Afg.; Malla, ber, birár, jhari, kanta. N. W. P.
ĵ	Vern.—Karkanna, Afg.; Malla, bér, birár, jhari, kanta, N. W. P.; Gangr, jangra, Sind.; Parpalli, gidda, Kan. A thorny shrub met with in the drier parts of North-West India and
.	• the Dekkan.
	Wood yellow, hard, compact. Weight 43 lbs. per cubic foot. Used to make fences round fields and gardens.
	its.
	P 2931. Bhajji, Simla, 3,000 feet 41
	P 3077. P 3093. Sabathu, Punjab, 3,000 feet 42
	P 442. Ajmere
1061	Z. Enoplia Mill.
	Syn.—Z. NAPECA, Roxb.
	Vernc-Makai, Hind.; Shyakúl, Beng.; Mahkoa, Monghyr; Barokoli, Uriya; Irún, C. P.; Paranu, paramic, porki, Tel.; Tausecnway, Burm.
•	A straggling or climbing shrub of Bengal, Burma, Central and Southern India.
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	ZIZYPHUS
Wood reddish, with the structure of a climber.	
Used for hedges.	ļ
C 2753. Moharli Reserve, Gentral Provinces.	
Zizyphus exyphylla, Edgw.	1062
Vern. Kúrkun bér, AFG.; Pitni, kokan ber, amiai, amnu, beri, shamor, PB.; Giggar, N. W. P.	
A thorny shrub of the outer Himalaya from the Indus to the Ganges	İ
from 2,000 to 6,000 feet.	Ì
Wood white, moderately hard. H 2947. Suni, Sutlej Valley, 3,000 feet.	
Z. rugosa, Lam.	1063
Syn.—Z. LATIFOLIA; Roxb. (Fl. Ind. 1, 607.)	
Vern. Dhaura, dhauri, Oudh.; Suran, churna, C. P.; Suran, Mar.; Rukh baer, harray baer, Nepal; Tshirka, Kol.; Kataila, Kharwar;	
Bogri, RAJBANSHI. A large scrambling shrub or small evergreen tree, of the sub-Hima-	.
layan tract from the Ganges eastwards, Burma, Central and South	
India.	1
Wood reddish, moderately hard, warps; cften attacked by insects.	1
Weight 45 lbs. per cubic foot.	
Only used as fuel.	
lbs. E 2336. Bamunpokri, Darjeeling Terai 45	
	7064
Z. xylopyra, Willd.	1064
•Vern.—Kat-ber, beri, goti, gotaha, kakor, chittania, sitaber. ghont, Hind. Goti, Tel.; Goti, bhorgoti, Mar.; Challe, Kan.; Karkata, Kol.; Gott.	; 1
BHUMIJ; Kankor, KHARWAR; Got, gotoboro, kanta bohol, URIYA; Ghattol. ghotia, GOND.	
A large scrambling shrub, of the sub-Himalayan tract from the Ganges to Nepal, Central and South India.	
Wood yellowish brown, hard. Weight, 60 lbs. per cubic foot.	7
Used for carts and agricultural implements.	
lbs.	
C. 2736. Moharli Reserve, Central Provinces	
	,
C 3598. Sonakalla, Khurda, Orissa	1
C 3433. Latihar, Palamow, Chota Nagpore	
•	